



Japanese Technology since 1912

3 SERIES

Data Book 50Hz



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SPECIFICATION

50Hz

Rev. AH

Version		3M	3S	3P	3LM	3LMZ	3LS	3LSZ	3LP
Pump sizes	32-125	■	■	■	●	◇	●	◇	●
	32-160	■	■	■	●	◇	●	◇	●
	32-200	■	■	■	●	◇	●	◇	●
	40-125	■	■	■	●	◇	●	◇	●
	40-160	■	■	■	●	◇	●	◇	●
	40-200	■	■	■	●	◇	●	◇	●
	50-125	■	■	■	●	◇	●	◇	●
	50-160	■	■	■	●	◇	●	◇	●
	50-200	■	■	■	●	◇	●	◇	●
	65-125	■	■	■	●	◇	●	◇	●
	65-160	■	■	■	●	◇	●	◇	●
	65-200	■	■	■	●	◇	●	◇	●
	65-250	-	-	-	-	-	●	-	●
	80-160	-	-	-	●	-	●	-	●
	80-200	-	-	-	-	-	●	-	●
	80-250	-	-	-	-	-	▲	-	▲

■ Available also with H, HS, HW, HSW, E, Q1Q1EGG, Q1U3EGG, Q1AEGG, U3CEGG, U3U3CEGG version.
U3U3EGG not available for model 65-160/15 and 65-200

● Available also with H, HW, HSW, E, Q1Q1EGG, Q1U3EGG, Q1AEGG, U3CEGG, U3U3EGG version.
U3U3EGG available for model 32, 40, 50, 65-125 and 65-160/7.5/9.2/11

▲ Available also with H, HW, HSW, ES, Q1Q1EGG, Q1U3EGG, Q1AEGG, U3CEGG version.

— Not available.

◇ Available only standard version.

SPECIFICATION

50Hz

Rev. AH

PUMP										
Version			3M	3S	3P	3LM(Z)	3LS(Z)	3LP		
Liquid Handled	Type of liquid		Clean water and moderately aggressive fluids							
			/			Drinking water and water contains glycol for E and ES version				
	Temperature [°C]		min. -10 max. +120 For full details see section "FLUID TEMPERATURE RANGE" on pag.333							
Maximum working pressure [MPa]			1							
Construction	Impeller		Closed centrifugal type for 32, 40, 50 version Reinforced laser welding for 40-200/11, 50-200/15 Closed centrifugal three dimensional blades for 65 and 80 version							
	Shaft seal type		Mechanical seal			Mechanical seal with stationary ring secured against rotation				
	Bearing		Sealed ball bearing							
Pipe Connection	Suction	32-125/160/200		Flange DN50 according EN1092-1 Standard						
		40-125/160/200		Flange DN65 according EN1092-1 Standard						
		50-125/160/200		Flange DN80 according EN1092-1 Standard						
		65-125/160/200/250		Flange DN100 according EN1092-1 Standard						
		80-160/200/250		Flange DN32 according EN1092-1 Standard						
	Discharge	32-125/160/200		Flange DN40 according EN1092-1 Standard						
		40-125/160/200		Flange DN50 according EN1092-1 Standard						
		50-125/160/200		Flange DN65 according EN1092-1 Standard						
		65-125/160/200/250		Flange DN80 according EN1092-1 Standard						
80-160/200/250										
Material	Casing	32-125/160/200		EN 1.4301 (AISI 304)			EN 1.4404 (AISI 316L)			
		40-125/160/200								
		50-125/160/200		/			CF8M - EN 1.4408 (AISI 316)			
		65-125/160/200								
		65-250								
	Impeller	80-160/200/250		EN 1.4301 (AISI 304)			EN 1.4404 (AISI 316L)			
		32-125/160/200								
		40-125/160/200		CF8M - EN 1.4408 (AISI 316)						
		50-125/160/200								
		65-125/160/200		/			CF8M - EN 1.4408 (AISI 316)			
	65-250									
	Casing cover	80-160/200/250		EN 1.4301 (AISI 304)			EN 1.4404 (AISI 316L)			
		32-125/160/200								
		40-125/160/200		CF8M - EN 1.4408 (AISI 316)						
		50-125/160/200								
		65-125/160/200								
	Mechanical seal	32-125/160/200		Ceramic/Carbon/NBR (For version see page 327+333)			SiC/SiC/FPM (L version) (For version see page 327+333)			
		40-125/160/200								
		50-125/160/200		/			SiC/Carbon/EPDM (ES version) [2]			
		65-125/160/200								
65-250										
80-160/200										
80-250										
O-ring			NBR [1]			FPM [3]				
Shaft	32, 40, 50, 65-125 65-160/11 50-200/15 65-160/15 65-200 65-250 80-160 80-200/22 80-200/30-37 80-250	d=19	EN 1.4301 (AISI 304)			EN 1.4404 (AISI 316L)				
		d=22								
		d=24								
		d=24								
		d=24	/			EN 1.4462 (Duplex stainless steel)				
		d=24				EN 1.4404 (AISI 316L)				
		d=24				EN 1.4462 (Duplex stainless steel)				
		d=29								
		Bracket			Cast iron - Aluminium					
		Applicable standard of test			ISO 9906:2012 – Grade 3B					

[1] FPM for H-HS-HW-HSW version / EPDM for Q1AEGG, U3U3EGG, Q1Q1EGG, Q1U3EGG, U3EGG

[2] ES option only for 80-250 2 poles Ø35

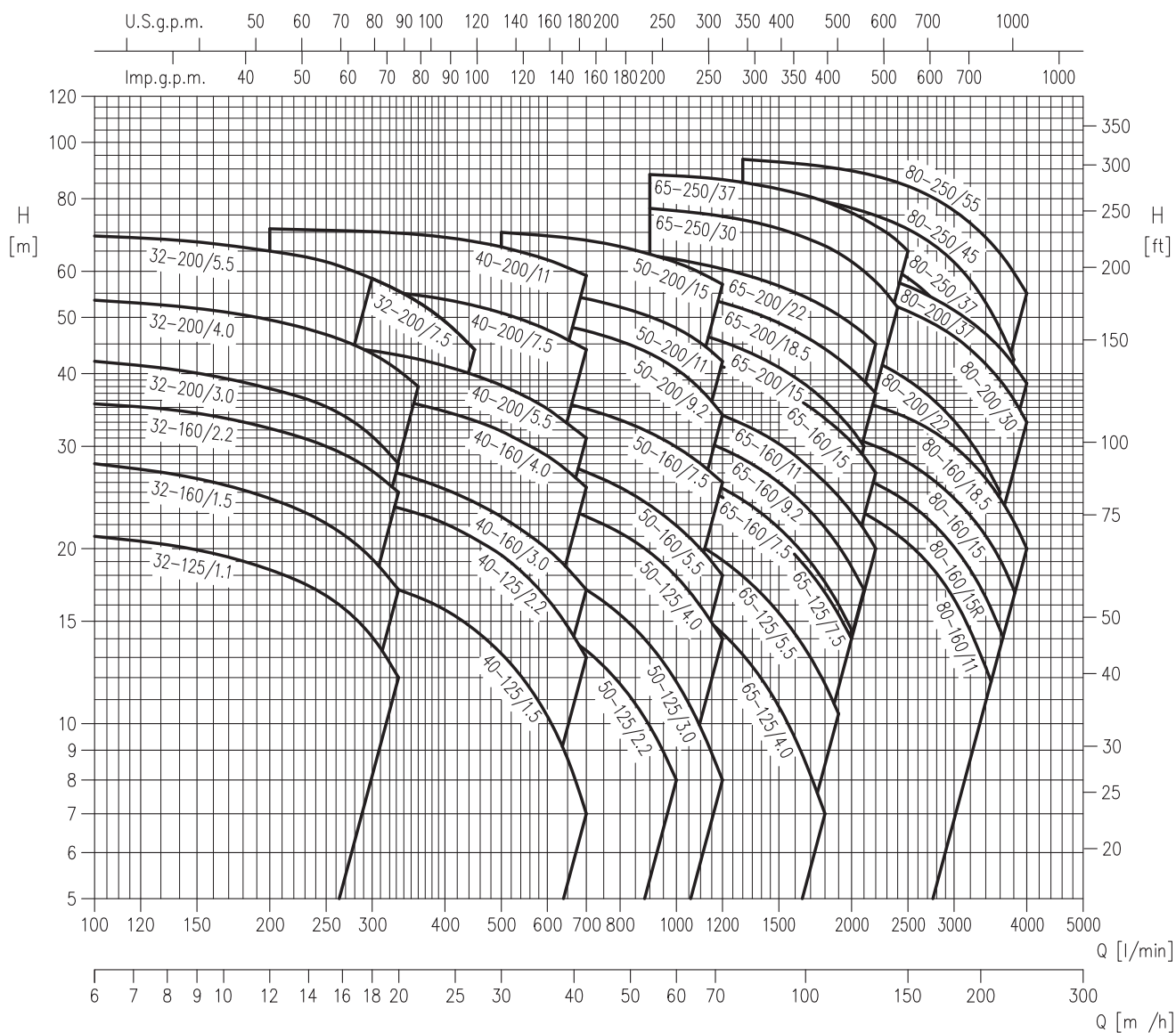
[3] EPDM for E-ES version and for Q1AEGG, U3U3EGG, Q1Q1EGG, Q1U3EGG, U3CEGG

SPECIFICATION

50Hz

Rev. AH

MOTOR					
Type	3(.)M(Z)		3(.)S(Z)		3(.)P
	Electric - TEFC				
	Single Phase	Three Phase			
Efficiency level (Reg. 1781/2019)	IE2		IE3		
No. of Poles	2				
Rotation speed [min ⁻¹]	≈ 2900				
Insulation Class	F		F (temperature rise class B)		
Protection degree (CEI EN 60034-5)	IP 55				
Power rating [kW]	1.1 ÷ 2.2	1.1 ÷ 22	1.1 ÷ 55		
[HP]	1.5 ÷ 3.0	1.5 ÷ 30	1.5 ÷ 7.5		
Frequency [Hz]	50				
Voltage [V]	230 ±10%	230/400 ±10% (up to 4.0 kW) 400/690 ±10% (5.5 kW and above)			
Over load protection	Provided by the user				
Casing material	Aluminium				
Motor support	Cast iron - Alluminium				
Dimensions of cable entry	M20x1.5	PG13.5	M32x1.5		
		PG16	M40x1.5		
		PG21	M50x1.5		
		M20x1.5, M25x1.5			
Flange mount (IEC motor)	/		3(.)S IMB5 (up to 2.2 kW) IMB35 (3 kW and above) 3LSZ IM B35		IM B3

PERFORMANCE RANGE

SELECTION CHART

50Hz

Rev. AH

SELECTION CHART

3 SERIES: 32, 40, 50 Version

Pump type	l/min m³/h	0	100	150	200	300	333	360	400	450	500	600	700	800	1000	1200
		0	6	9	12	18	20	22	24	27	30	36	42	48	60	72
32-125/1.1(M) *	22.5	21	19.9	18.4	14.1	12	-	-	-	-	-	-	-	-	-	-
32-160/1.5(M) *	29.5	28	26.5	24.5	19.2	17	-	-	-	-	-	-	-	-	-	-
32-160/2.2(M) *	37	35.5	34	32	27	25	-	-	-	-	-	-	-	-	-	-
32-200/3.0	44	42	40	37.5	31	28	-	-	-	-	-	-	-	-	-	-
32-200/4.0	55	53.5	52	49.5	43.5	40.5	38	-	-	-	-	-	-	-	-	-
32-200/5.5	70.5	69	67.5	65	58.5	-	-	-	-	-	-	-	-	-	-	-
32-200/7.5	70.5	69	67.5	65	58.5	55.5	53	49	44	-	-	-	-	-	-	-
40-125/1.5(M) *	20	-	-	19	17.6	17	16.5	15.7	14.5	13.2	10.3	7	-	-	-	-
40-125/2.2(M) *	26.5	-	-	25.5	24	23.5	23	22	21	19.5	16.4	13	-	-	-	-
40-160/3.0	31	-	-	29.5	27.5	27	26.5	25.5	24	22.5	20	17	-	-	-	-
40-160/4.0	40	-	-	38.5	37	36	35.5	34.5	33	32	29	25.5	-	-	-	-
40-200/5.5	47	-	-	45.5	44	43	42.5	41	39.5	38	35	31	-	-	-	-
40-200/7.5	58	-	-	57	55.5	55	54.5	53.5	52.5	51	47.5	44	-	-	-	-
40-200/11	72	-	-	71	70	70	69.5	68.5	67.5	66	63	59	-	-	-	-
50-125/2.2(M) *	19	-	-	-	-	-	-	17.5	17	16.3	14.9	13.4	11.7	8	-	-
50-125/3.0	22.7	-	-	-	-	-	-	21.7	21.4	21	19.9	18.5	16.9	13.3	9.5	-
50-125/4.0	26.5	-	-	-	-	-	-	26	25.5	25	24	22.5	21.5	17.9	14	-
50-160/5.5	33	-	-	-	-	-	-	31	30.5	30	28.5	27	25.5	22	18	-
50-160/7.5	40	-	-	-	-	-	-	38.5	38	37.5	36	35	33.5	30	26	-
50-200/9.2	53	-	-	-	-	-	-	-	-	50	49	47.5	45.5	40.5	34	-
50-200/11	59	-	-	-	-	-	-	-	-	56	55	54	52	48	42	-
50-200/15	72	-	-	-	-	-	-	-	-	70	69	68	66	62	57	-

* Single phase version only for 3M type

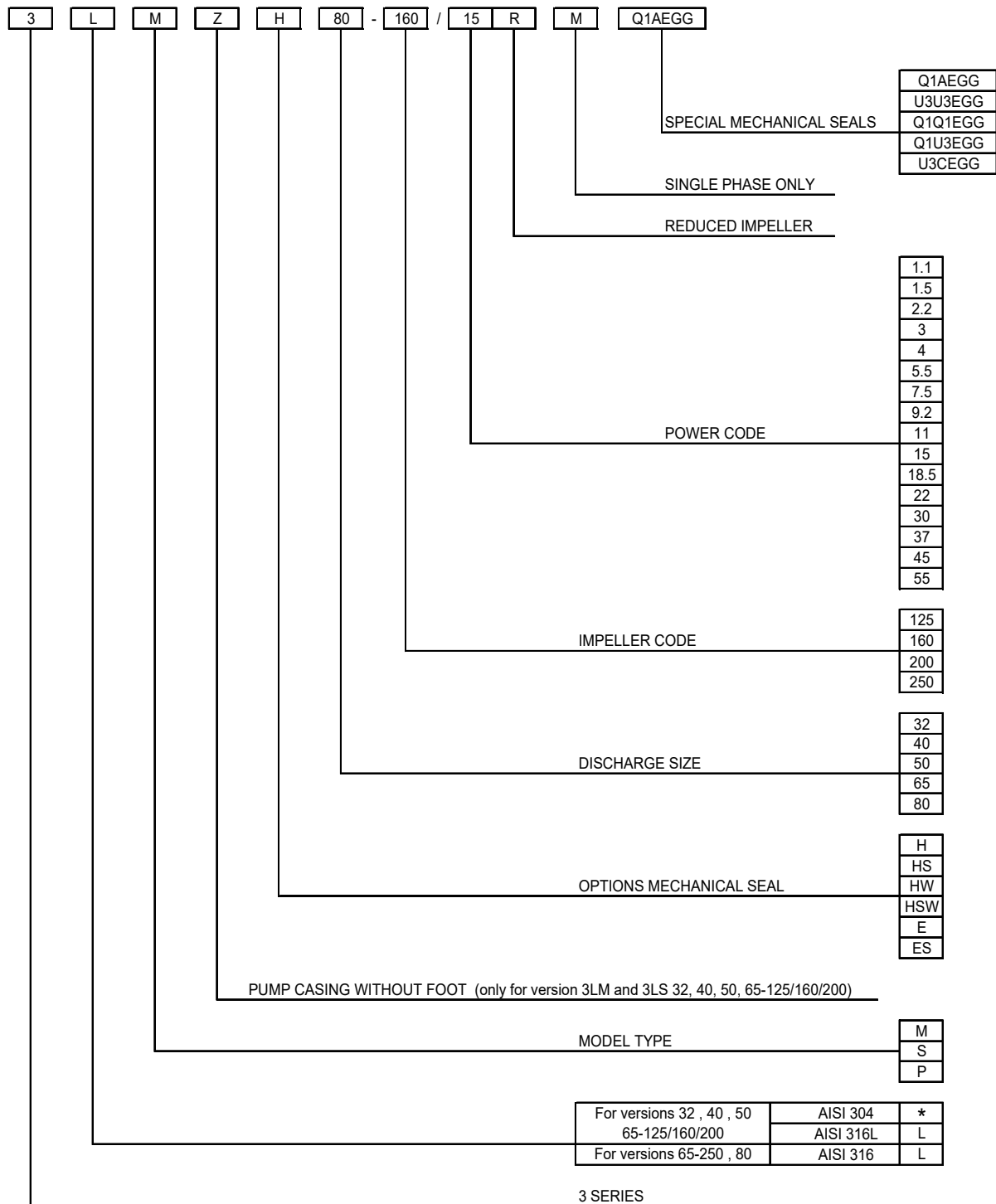
3 SERIES: 65, 80 Version

Pump type	l/min m³/h	0	600	700	900	1300	1500	1700	1900	2100	2200	2300	2400	2500	3000	3400	3600	3800	4000
		0	36	42	54	78	90	102	114	126	132	138	144	150	180	204	216	228	240
65-125/4.0	22.2	19.8	19	17.3	13.3	11	8.6	6.3	-	-	-	-	-	-	-	-	-	-	-
65-125/5.5	27	-	24	22.2	18	15.7	13.3	10.8	8	-	-	-	-	-	-	-	-	-	-
65-125/7.5	32	-	29.5	27.8	23.5	21.1	18.7	16.1	13.4	12	-	-	-	-	-	-	-	-	-
65-160/7.5	32	-	30	28.6	24.8	22.5	19.9	17.1	14.2	-	-	-	-	-	-	-	-	-	-
65-160/9.2	36.5	-	34.5	32.8	28.8	26.5	23.9	21.1	18.3	16.8	-	-	-	-	-	-	-	-	-
65-160/11	40.5	-	38.5	37.1	33.1	30.9	28.4	25.8	23	21.5	20	-	-	-	-	-	-	-	-
65-160/15	48	-	45.5	44	40	37.8	35.3	32.6	29.6	28	26.5	-	-	-	-	-	-	-	-
65-200/15	53.5	-	51	49	44	41.5	38.4	35.3	31.8	30	-	-	-	-	-	-	-	-	-
65-200/18.5	60.5	-	58.5	56.5	51.5	49	46	43	39.7	38	36.3	-	-	-	-	-	-	-	-
65-200/22	67	-	65.5	64	59.5	57	54	51	48	46.5	45	-	-	-	-	-	-	-	-
65-250/30	78	-	-	77	73.5	71	68	64.5	60	57.5	55	52	-	-	-	-	-	-	-
65-250/37	89	-	-	88	85.5	83	80.5	77.5	74	72	70	67.5	65	-	-	-	-	-	-
80-160/11	29	-	-	-	27.3	26.4	25.4	24.2	23	22.4	21.8	21.1	20.4	16.4	12.5	-	-	-	-
80-160/15R	32	-	-	-	30.5	29.7	28.8	27.7	26.5	25.9	25.3	24.6	24	20.1	16.5	14.5	-	-	-
80-160/15	35	-	-	-	34	33.3	32.5	31.5	30.5	30	29.4	28.8	28.1	24.4	21	19.1	17	-	-
80-160/18.5	40	-	-	-	39	38.4	37.6	36.7	35.7	35.2	34.7	34.1	33.5	30	26.4	24.4	22.3	20	-
80-200/22	50	-	-	-	48	47	45.5	44.5	43	42	41	40	39	33.2	27.8	25	-	-	-
80-200/30	60	-	-	-	58.5	58	57	56	54.5	54	53	52	51	46.5	41.5	39	36.1	33	-
80-200/37	66	-	-	-	64	63	62	61	59.5	59	58	57.5	56.5	51.5	47	44.5	41.5	38.5	-
80-250/37	73	-	-	-	71.5	70.5	68.5	66.5	64	63	61.5	60	58.5	48.5	38	-	-	-	-
80-250/45	84	-	-	-	82.5	81.5	80	78	76	75	73.5	72.5	71	62	53	48	42.5	-	-
80-250/55	95	-	-	-	93.5	92.5	91.5	90	88.5	87.5	86.5	85.5	84	76.5	68.5	64.5	60	55	-

TYPE KEY AND CURVE SPECIFICATIONS

50Hz

Rev. AH

TYPE KEY

*-) No indication

PERFORMANCE CURVE SPECIFICATIONS

The specifications below qualify the curves shown on the following pages.

Tolerances according to ISO 9906:2012 - Grade 3B

The curves refer to effective speed of asynchronous motors at 50 Hz, 2 poles.

Measurements were carried out with clean water at 20°C of temperature and with a kinematic viscosity of $\nu = 1 \text{ mm}^2/\text{s}$ (1 cSt)

The NPSH curve is an average curve obtained in the same conditions of performance curves.

The continuous curves indicate the recommended working range. The dotted curve is only a guide.

In order to avoid the risk of over-heating, the pumps should not be used at a flow rate below 10% of best efficiency point.

Symbols explanation:

- Q = volume flow rate
- H = total head
- P_2 = pump power input (shaft power)
- η = pump efficiency
- NPSH = net positive suction head required by the pump
- MEI = minimum efficiency index

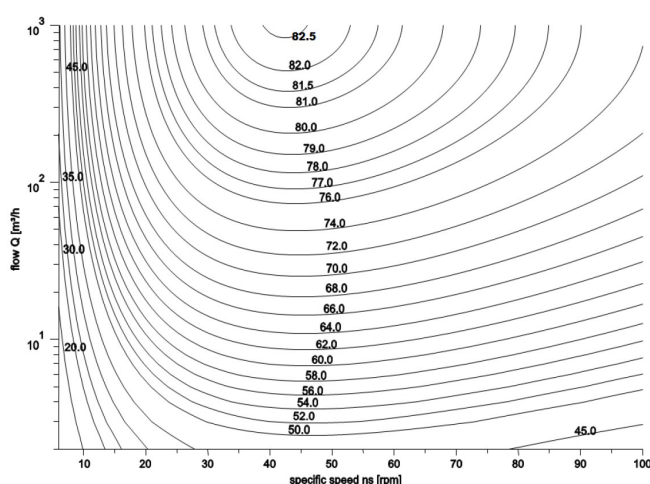
MEI INDEX SPECIFICATION

The minimum efficiency index (MEI) is a measure of the quality of a pump size in respect to its mean efficiency. The minimum efficiency index is based on the hydraulic efficiency and on the head at the best efficiency point.

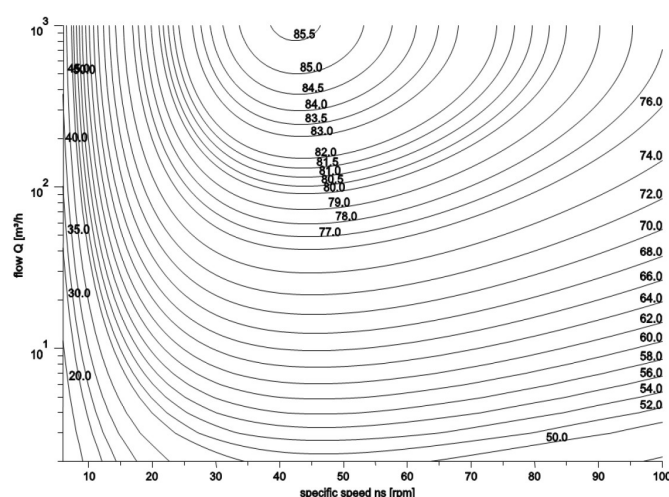
The efficiency of a pump with trimmed impeller is usually lower than that of a pump with the full impeller diameter. The trimming of the impeller will adapt the pump to a fixed duty point, leading to a reduced energy consumption. The minimum efficiency index (MEI) is based on the full impeller diameter.

The operation of these water pumps with variable duty points may be more efficient and economical when controlled, for example, by the use of a variable speed drive that matches the pump duty to the system.

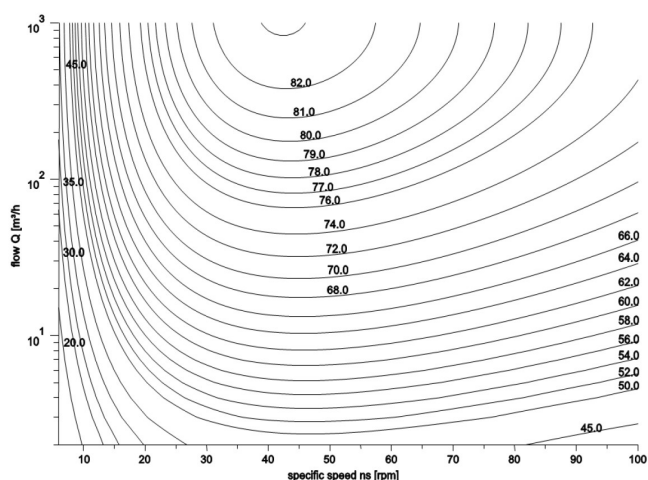
MEI = 0.4 for ESCC 2900 rpm



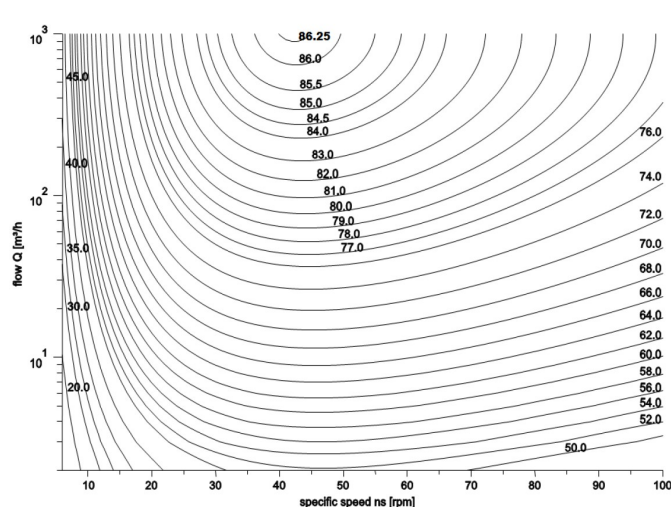
MEI = 0.7 for ESCC 2900rpm



MEI = 0.4 for ESOB 2900 rpm

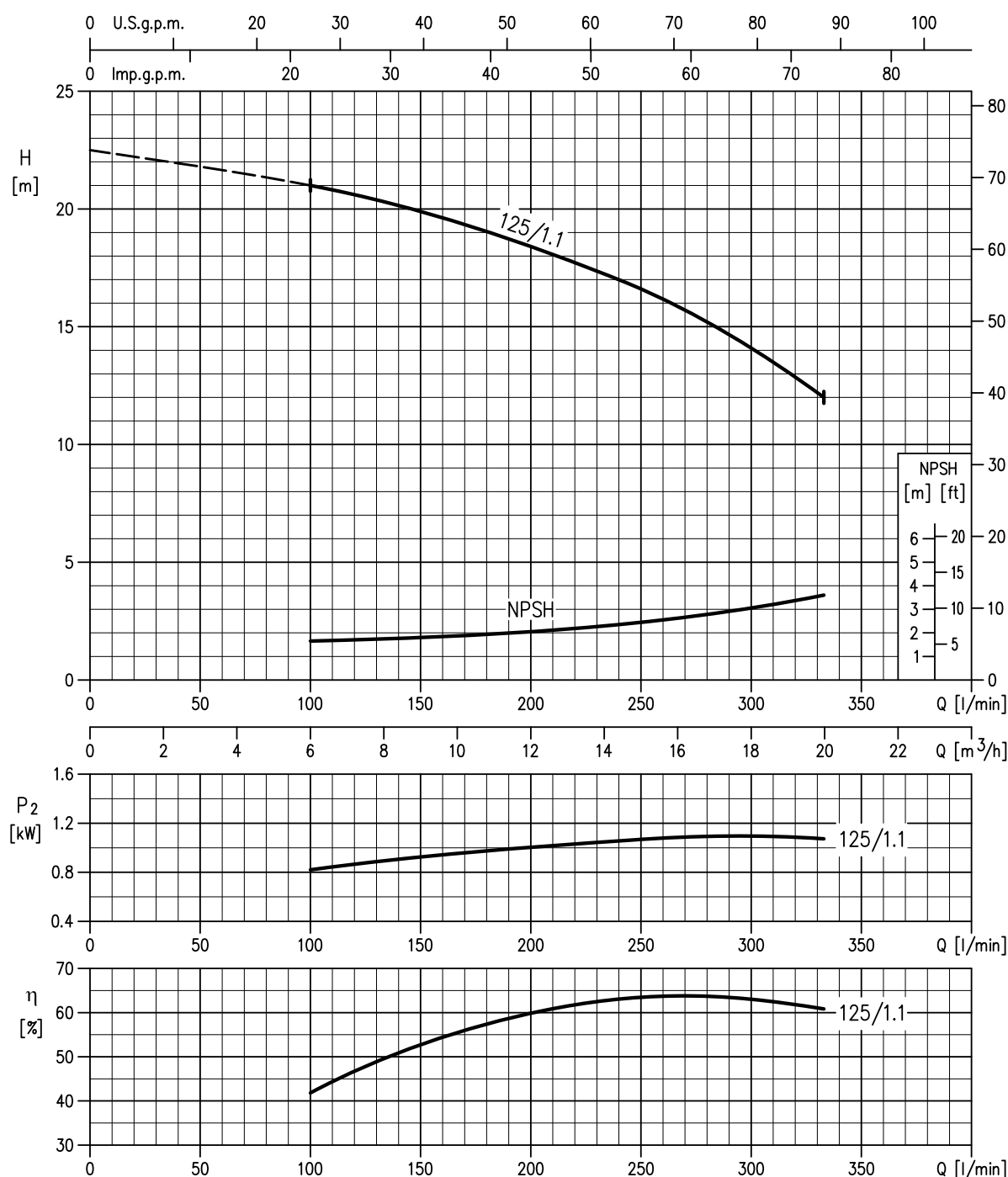


MEI = 0.7 for ESOB 2900rpm

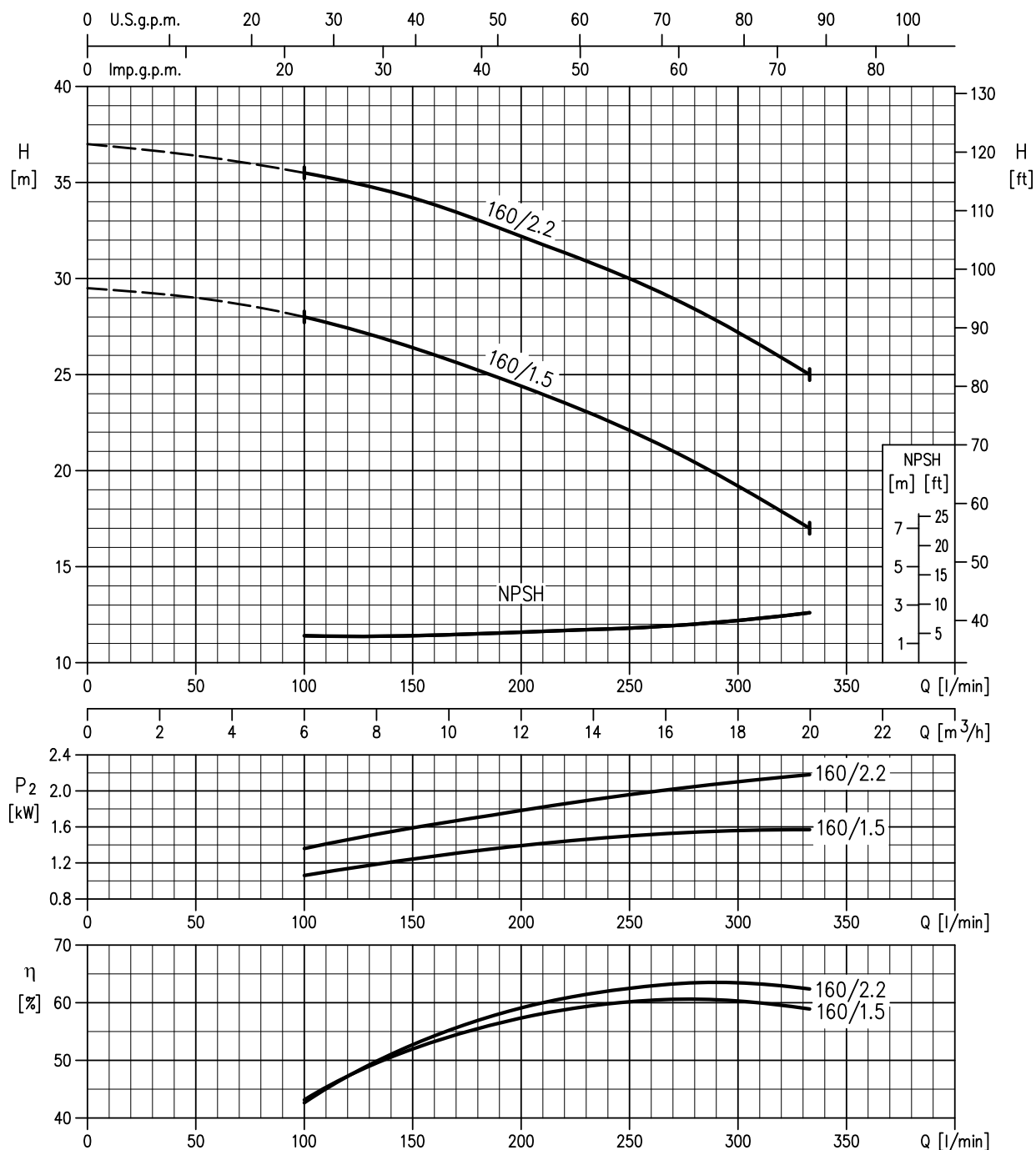


MEI INDEX VALUE

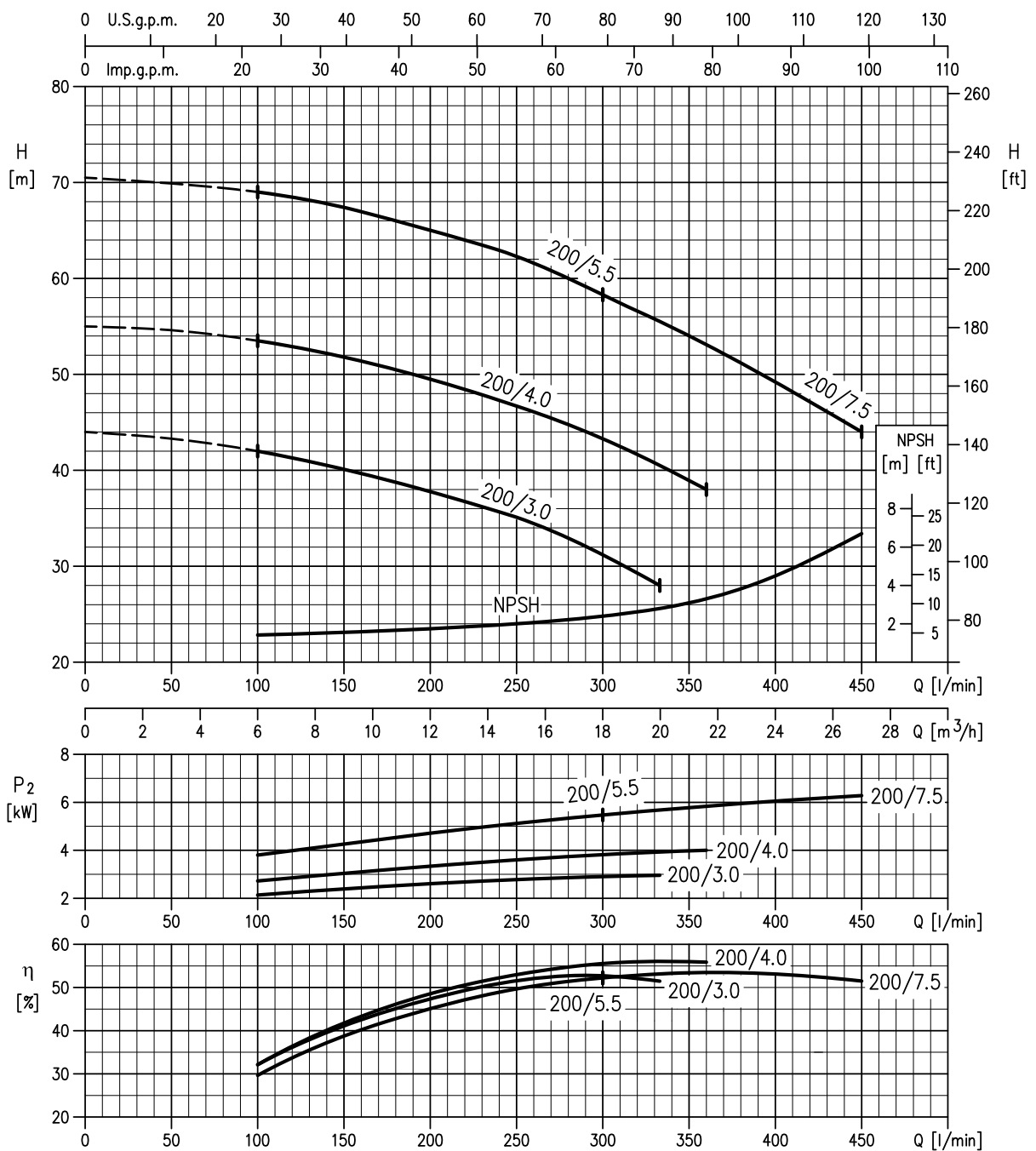
SIZE	MEI VALUE		
	3M	3S	3P
32-125	≥ 0.4	≥ 0.4	≥ 0.4
32-160	≥ 0.7	≥ 0.7	≥ 0.7
32-200	≥ 0.6	≥ 0.6	≥ 0.5
40-125	≥ 0.7	≥ 0.7	≥ 0.6
40-160	≥ 0.7	≥ 0.7	≥ 0.7
40-200	≥ 0.7	≥ 0.7	≥ 0.7
50-125	≥ 0.4	≥ 0.4	≥ 0.4
50-160	≥ 0.7	≥ 0.7	≥ 0.6
50-200	≥ 0.7	≥ 0.7	≥ 0.7
65-125	≥ 0.7	≥ 0.7	≥ 0.7
65-160	≥ 0.7	≥ 0.7	≥ 0.6
65-200	≥ 0.7	≥ 0.7	≥ 0.6
65-250	≥ 0.5	≥ 0.5	≥ 0.4
80-160	≥ 0.7	≥ 0.7	≥ 0.7
80-200	≥ 0.5	≥ 0.5	≥ 0.4
80-250	≥ 0.7	≥ 0.7	≥ 0.7

32-125/1.1 – impeller diameter = 133 mm

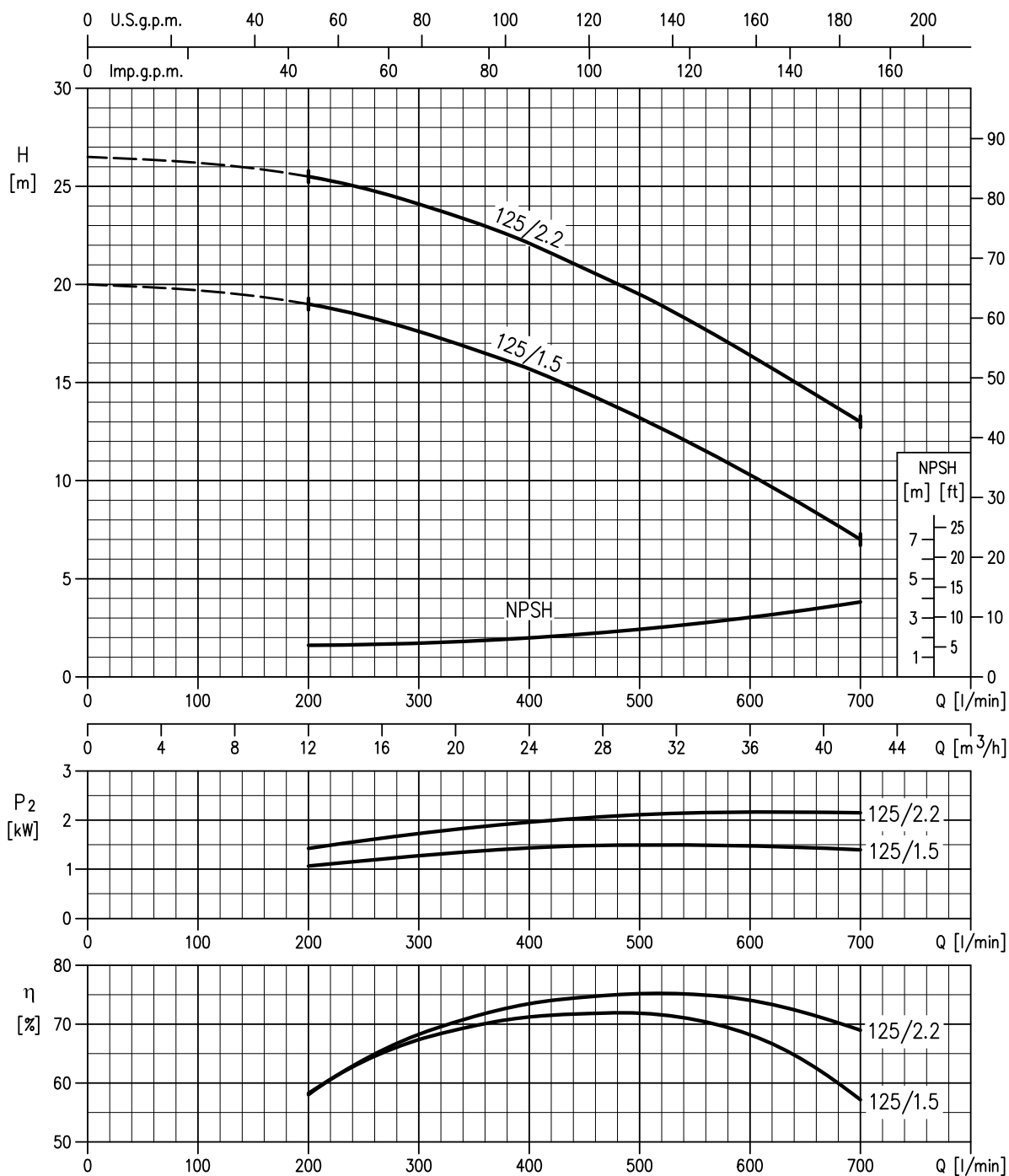
Rotation speed $\approx 2900 \text{ min}^{-1}$
 Test standard: ISO 9906:2012 - Grade 3B

32-160/1.5 - impeller diameter = 151 mm**32-160/2.2 - impeller diameter = 166 mm**Rotation speed $\approx 2900 \text{ min}^{-1}$

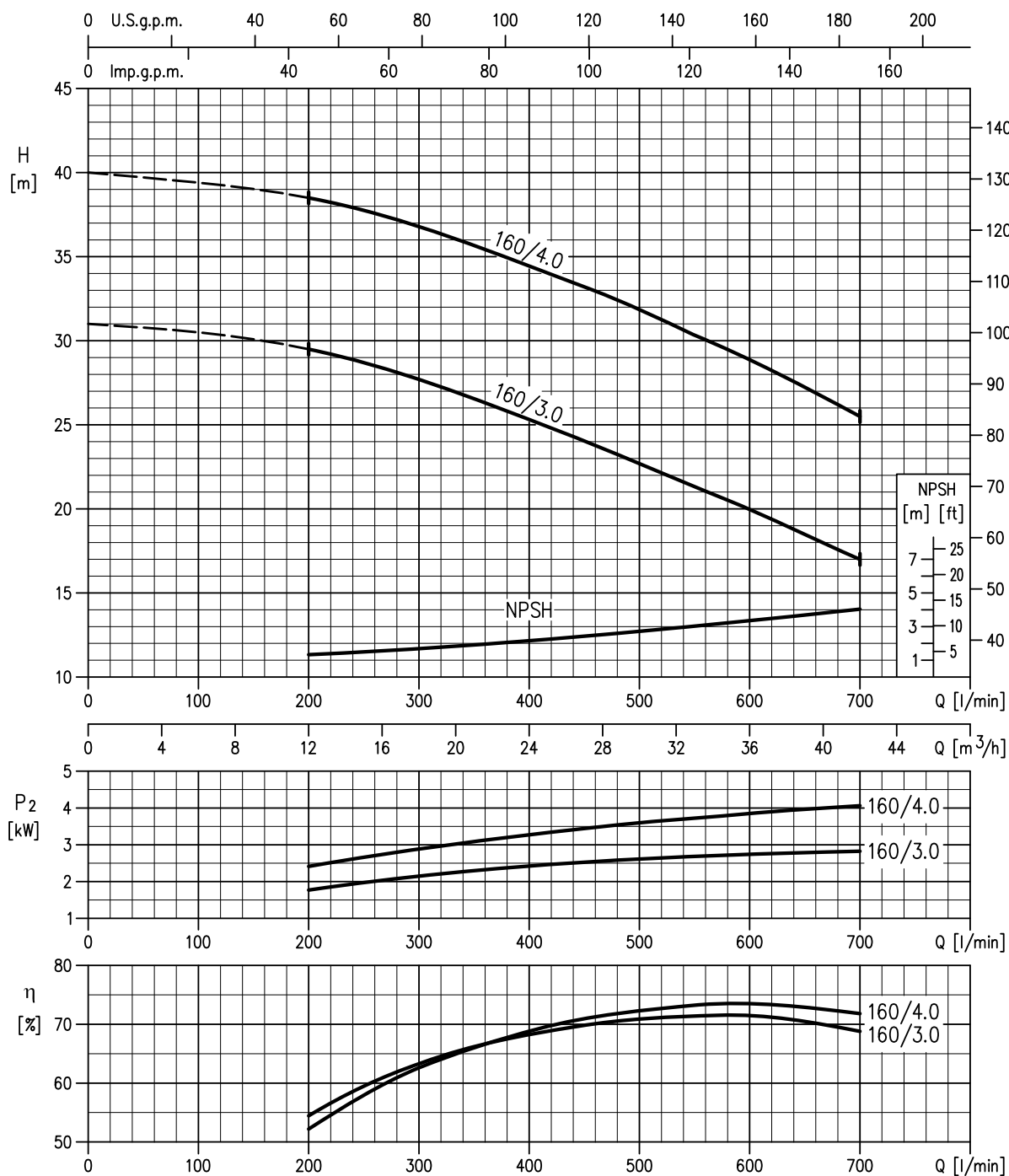
Test standard: ISO 9906:2012 - Grade 3B

32-200/3 – impeller diameter = 186 mm**32-200/4 – impeller diameter = 200 mm****32-200/5.5 – impeller diameter = 224 mm****32-200/7.5 – impeller diameter = 224 mm**Rotation speed $\approx 2900 \text{ min}^{-1}$

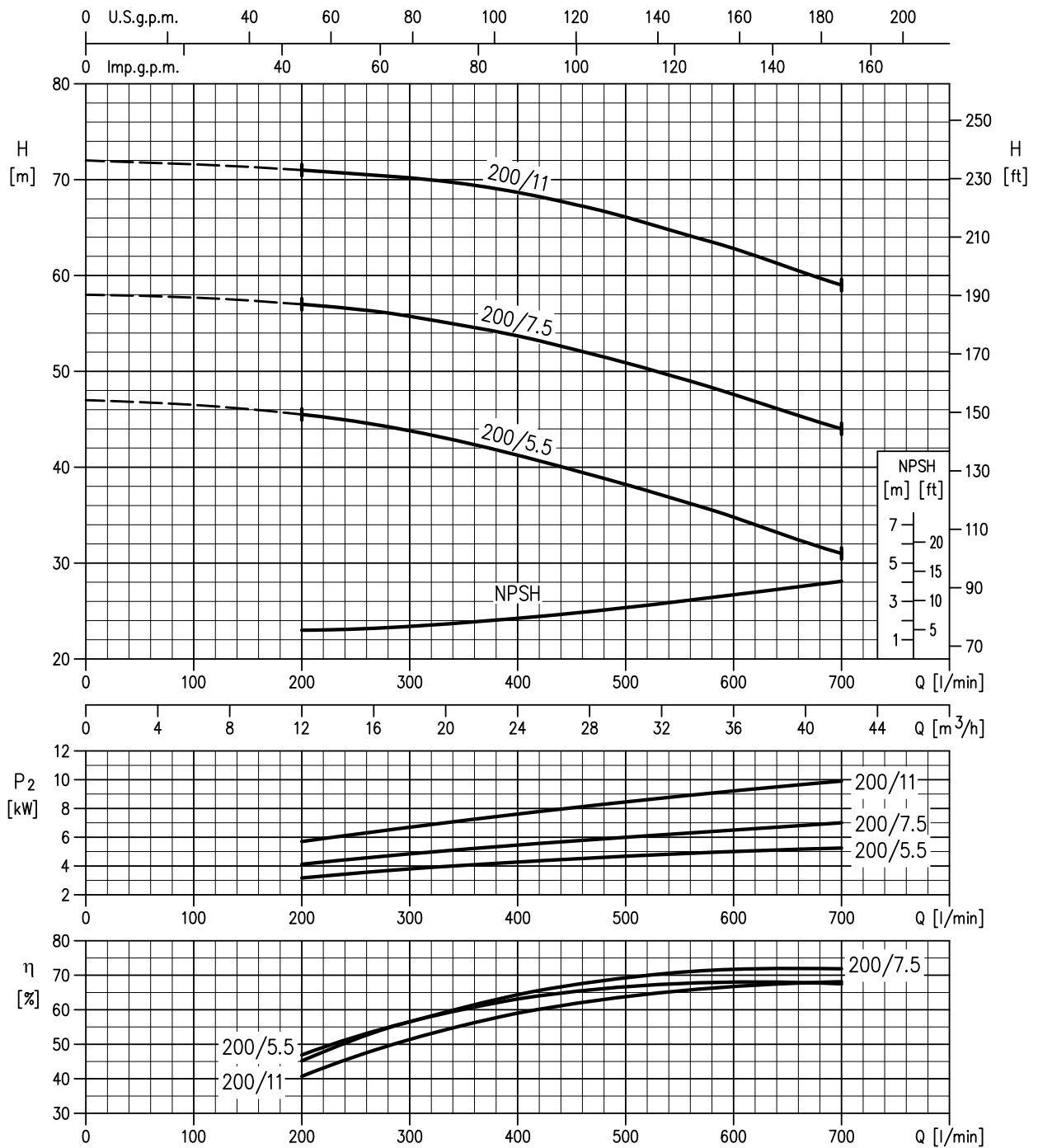
Test standard: ISO 9906:2012 - Grade 3B

40-125/1.5 - impeller diameter = 125 mm**40-125/2.2 - impeller diameter = 140 mm**Rotation speed $\approx 2900 \text{ min}^{-1}$

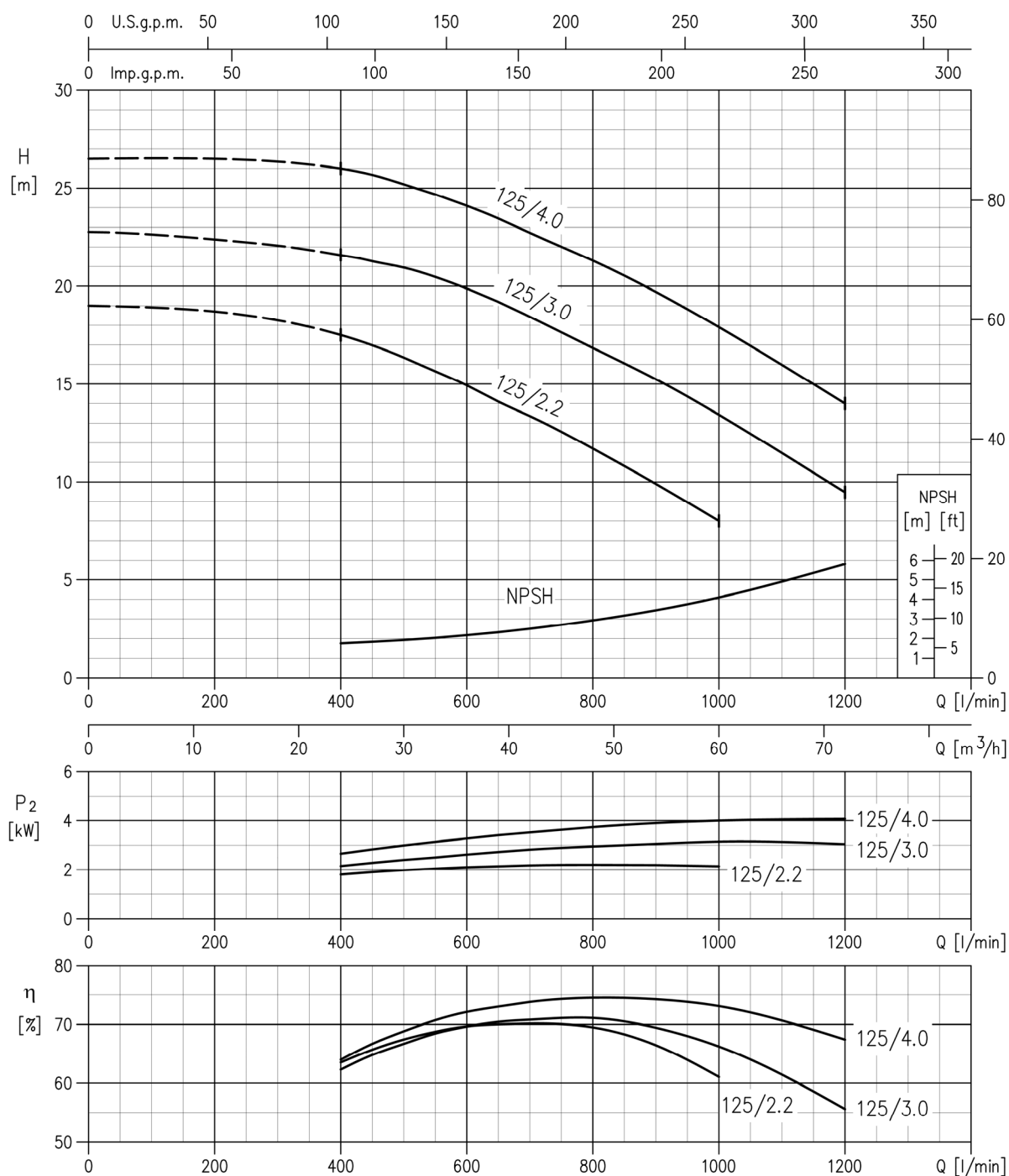
Test standard: ISO 9906:2012 - Grade 3B

40-160/3 – impeller diameter = 151 mm**40-160/4 – impeller diameter = 166 mm**

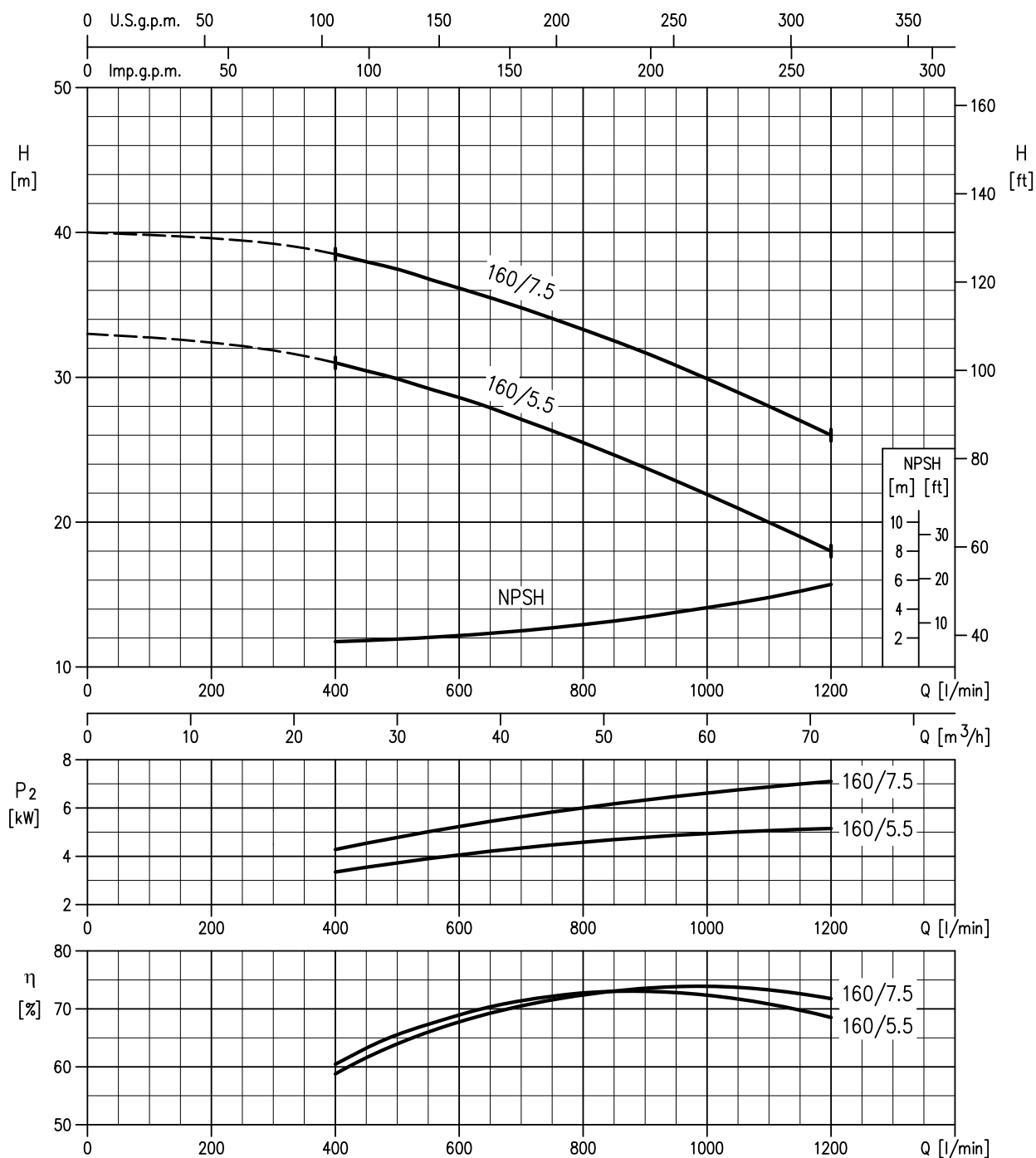
Rotation speed $\approx 2900 \text{ min}^{-1}$
 Test standard: ISO 9906:2012 - Grade 3B

40-200/5.5 – impeller diameter = 183 mm**40-200/7.5 – impeller diameter = 200 mm****40-200/11 – impeller diameter = 224 mm**Rotation speed $\approx 2900 \text{ min}^{-1}$

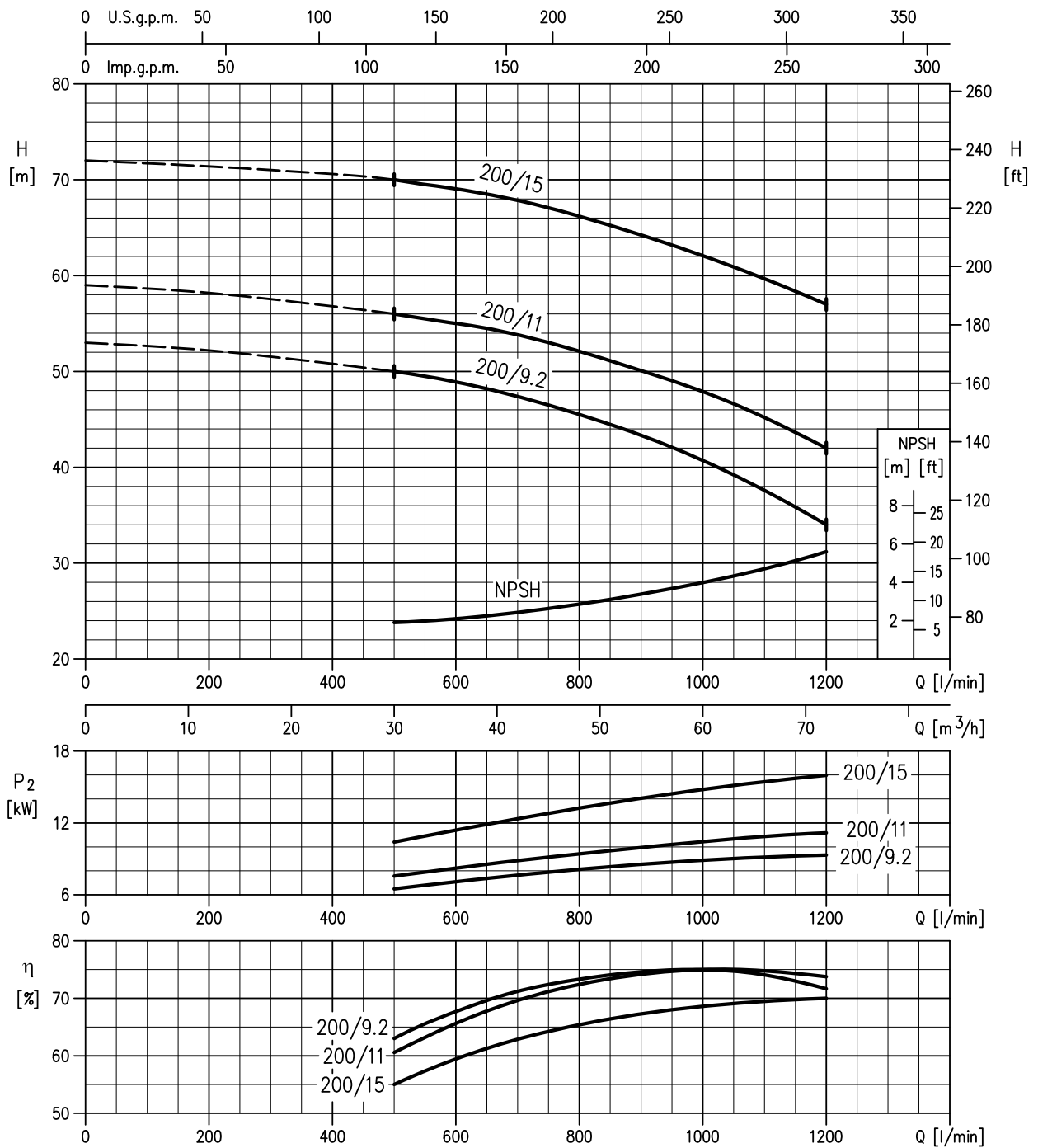
Test standard: ISO 9906:2012 - Grade 3B

50-125/2.2 – impeller diameter = 126 mm**50-125/3 – impeller diameter = 131 mm****50-125/4 – impeller diameter = 140 mm**Rotation speed $\approx 2900 \text{ min}^{-1}$

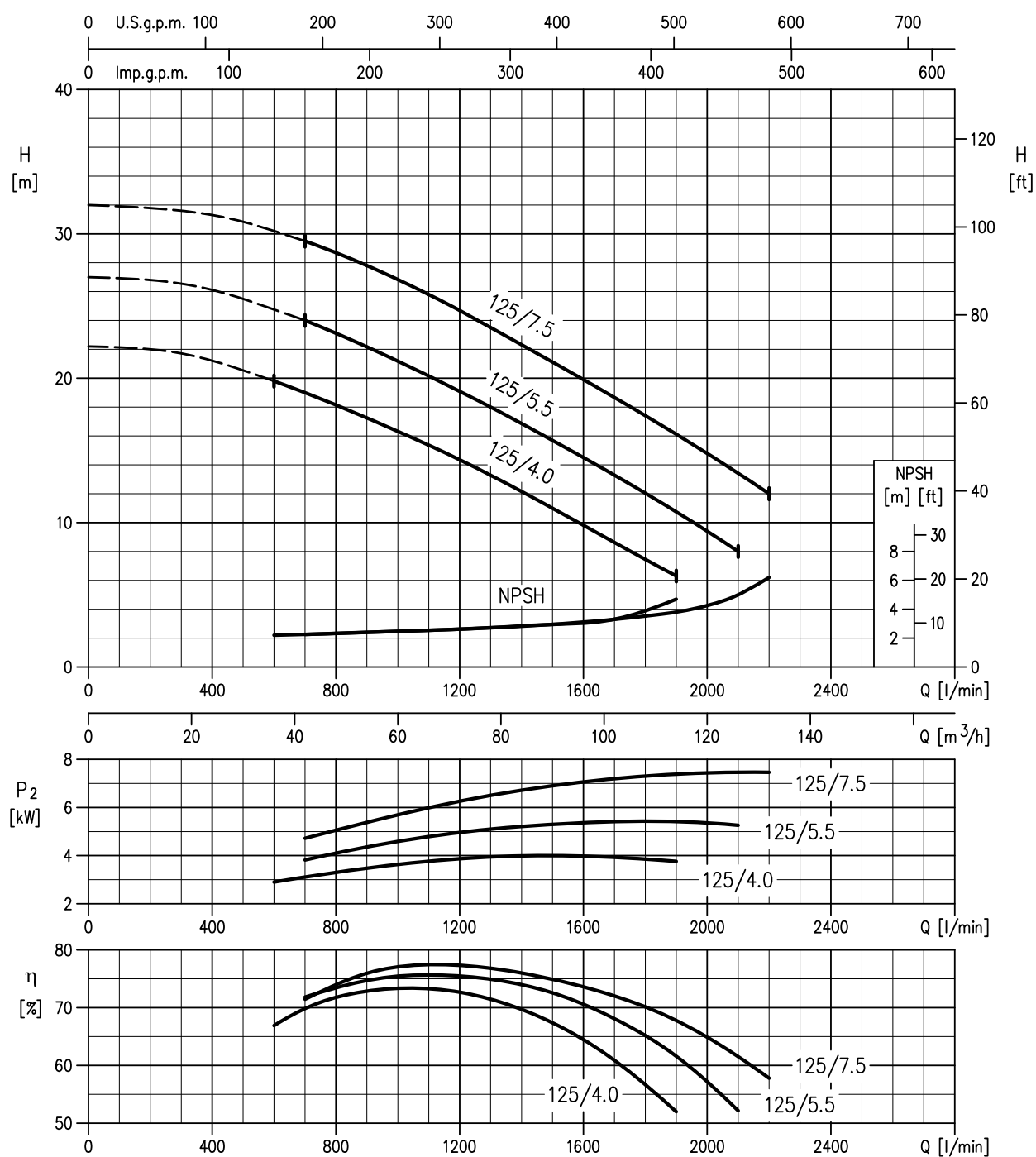
Test standard: ISO 9906:2012 - Grade 3B

50-160/5.5 – impeller diameter = 154 mm**50-160/7.5 – impeller diameter = 166 mm**Rotation speed $\approx 2900 \text{ min}^{-1}$

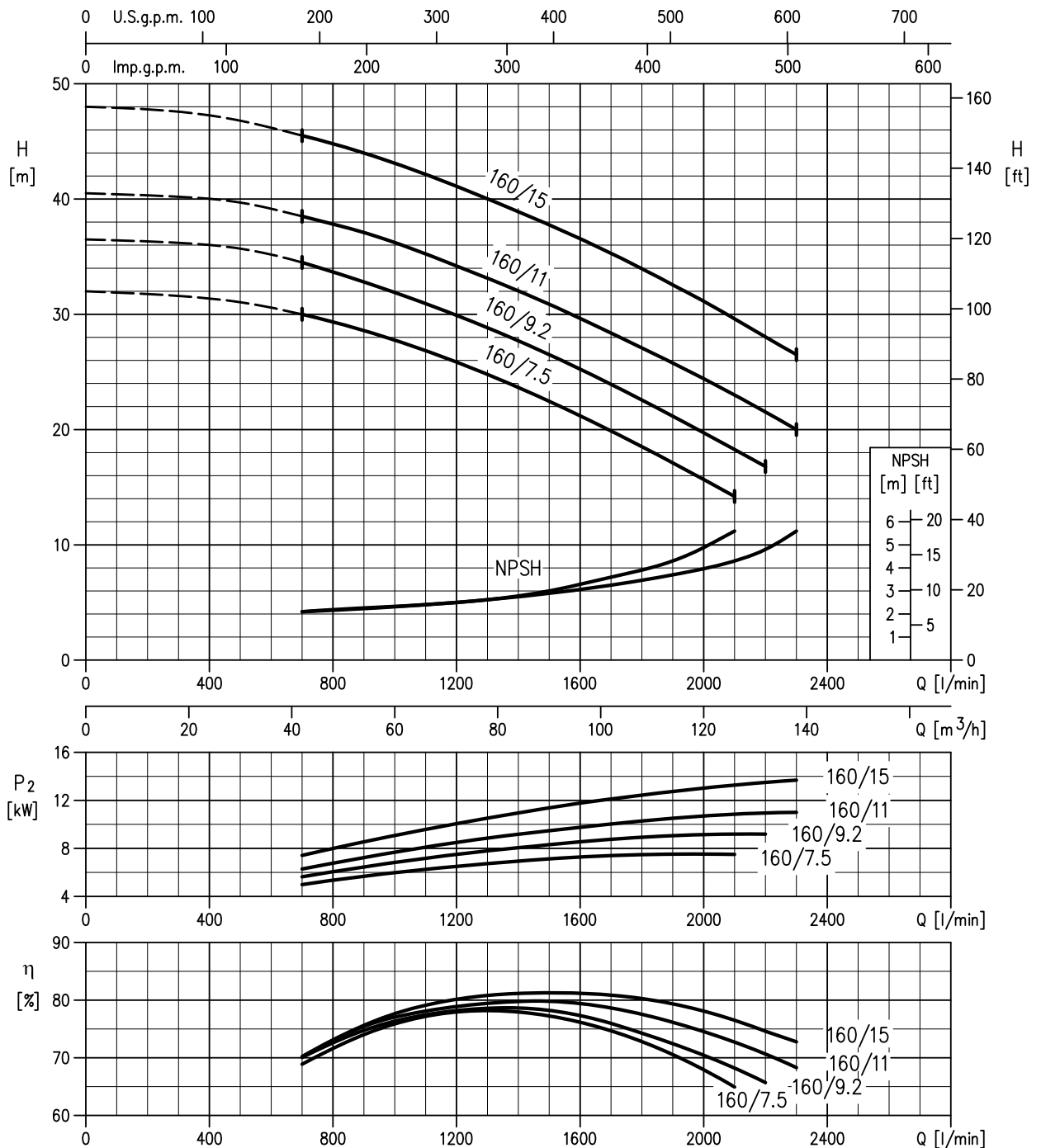
Test standard: ISO 9906:2012 - Grade 3B

50-200/9.2 – impeller diameter = 191 mm**50-200/11 – impeller diameter = 200 mm****50-200/15 – impeller diameter = 224 mm**Rotation speed $\approx 2900 \text{ min}^{-1}$

Test standard: ISO 9906:2012 - Grade 3B

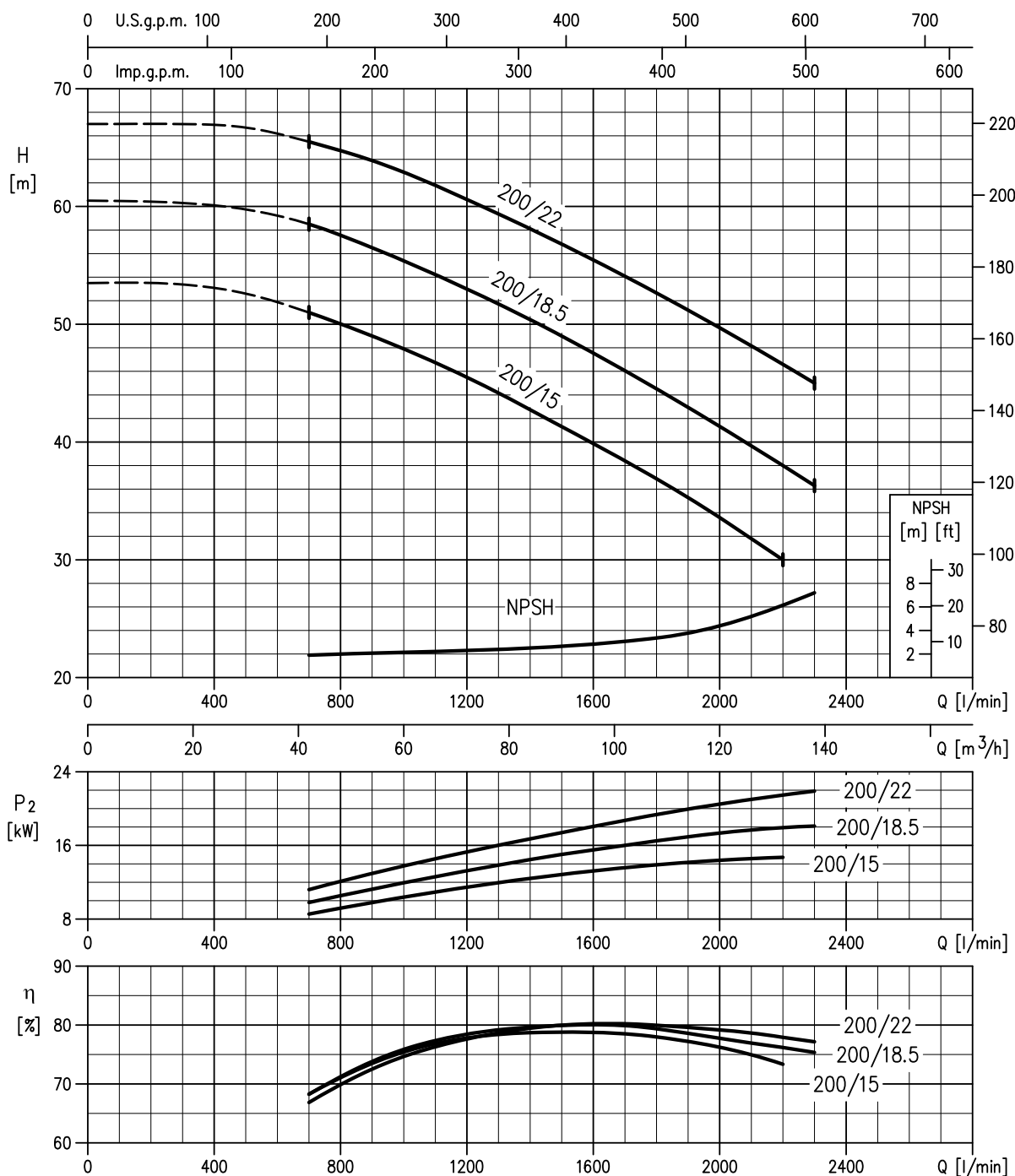
65-125/4 – impeller diameter = 128 mm**65-125/5.5 – impeller diameter = 138 mm****65-125/7.5 – impeller diameter = 149 mm**

Rotation speed $\approx 2900 \text{ min}^{-1}$
 Test standard: ISO 9906:2012 - Grade 3B

65-160/7.5 – impeller diameter = 153 mm**65-160/9.2 – impeller diameter = 161 mm****65-160/11 – impeller diameter = 168 mm****65-160/15 – impeller diameter = 178 mm**Rotation speed $\approx 2900 \text{ min}^{-1}$

Test standard: ISO 9906:2012 - Grade 3B

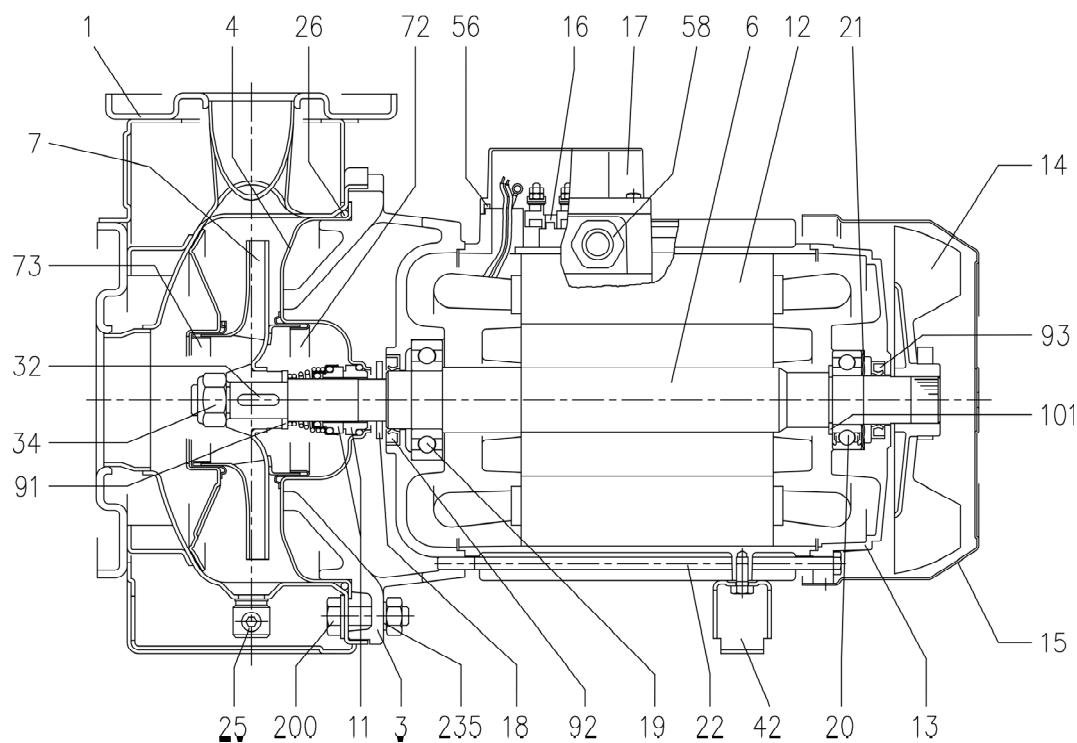
65-200/15 – impeller diameter = 190 mm
65-200/18.5 – impeller diameter = 201 mm
65-200/22 – impeller diameter = 212 mm



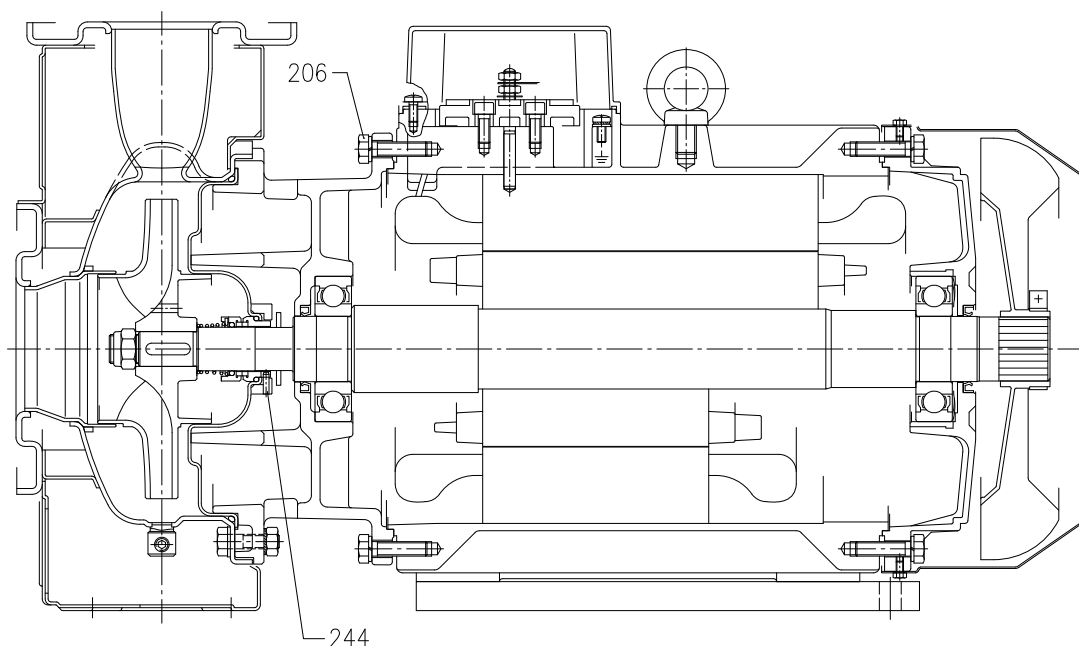
Rotation speed $\approx 2900 \text{ min}^{-1}$
 Test standard: ISO 9906:2012 - Grade 3B

SECTIONAL VIEW DRAWING 3(.)M 32, 40, 50, 65-125/160/200

UP TO 11 kW



15 kW AND ABOVE



SECTIONAL VIEW TABLE 3(.)M 32, 40, 50, 65-125/160/200

N°	PART NAME		MATERIAL		DIMENSIONS	STANDARD	Q.TY
			3M	3LM			
1	Casing		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
3	Motor bracket		[9]				1
4	Casing cover		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
6	Shaft with rotor-Part in contact with liquid		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
7	Impeller		EN 1.4301 (AISI 304)[10]	EN1.4404(AISI 316L)[10]			1
11	Mechanical seal		Carbon/Ceramic/NBR	SIC/SIC/FPM	[8]		1
12	Motor frame with stator		-				1
13	Motor cover		Aluminium				1
14	Fan		PA				1
15	Fan cover		Fe P04 Galvanized				1
16	Terminal		-				1
17	Terminal box cover		Aluminium (three phase version)				1
18	Splash ring	Up to 11 kW 15 kW and above	NBR	/	40x21.5x3 50x29.5x3	EBARA DRAWING	1
19	Bearing		-		See table p.324		1
20	Bearing		-		See table p.324		1
21	Adjusting ring		Steel C70				1
22	Tie rod	Up to 3 kW For 4 - 5.5 - 7.5 kW 9.2 e 11kW	Fe 42 Galvanized		M5 M6 M8	EBARA DRAWING	4
	Screw	15 kW and above	Galvanized Steel 8.8 strenght class ISO 898-1		M10x40	UNI 5739	
25	Drainig plug		EN 1.4401 (AISI 316) / PTFE		R 1/8" L=8	DIN 906	1
26	"O" ring	32-125, 40-125 32-160, 40-160, 50-125 32-200, 40-200, 50-160, 50-200, 65-160, 65-200	NBR [7]	FPM	158.11x5.34 183.52x5.34 227.96x5.34	OR 6625 OR 6720 OR 6895	1
32	Key	Up to 11 kW 15 kW and above	EN 1.4401 (AISI 316)		A 6x6x25 A 8x7x30	UNI 6604	1
34	Impeller nut	Up to 11kW 50-200/15 15 kW and above	EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)	M16x1.5 M18x1.5 M20x1.5	UNI 7474	1
42	Foot		Aluminium / Galvanized steel			EBARA DRAWING	[1]
56	Box gasket		NBR				1
58	Fasting nut		-				[2]
72	Casing ring		[3] EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
73	Casing ring		EN 1.4301 (AISI 304)	EN 1.4404 (AISI 316L)			1
92	Lip seal	Up to 3kW From 4 to 7.5 kW From 9.2 kW to 11 kW From 15 kW to 22 kW	-	-	25x40x7 30x47X7 40x55x7 45x60x7	DIN 3760 without spring	1
91	Impeller spacer		[11] EN 1.4404 (AISI 316L)				1
93	Lip seal	Up to 4 kW From 5.5 kW to 7.5 kW From 9.2 kW to 11 kW From 15 kW to 22 kW	-	-	25x40x7 30x47X7 40x55x7 45x60x7	DIN 3760 without spring	1
101	Snap ring (only 9.2 and 11kW)		Carbon tool steels TC 80		Ø 40	UNI 7435	1
200	Screw	32-125, 40-125 40-160, 40-200, 50-125, 50-160, 50-200, 65-125, 65-160, 65-200	Stainless steel A2 70 class ISO 3506/1		M 8x30 M 10x35	UNI 5739	8 [4]
235	Washer	32-125, 40-125 40-160, 40-200, 50-125, 50-160, 50-200, 65-125, 65-160, 65-201	EN 1.4301 (AISI 304)		8.4x17 10.5x21	UNI 6592	8 [4]
206	Screw for bracket		[5] Galvanized Steel 8.8 strenght class ISO 898-1		M 10x40	UNI 5739	4
244	Pin	[6] -	EN 1.4301 (AISI 304)		4x15		1

Counterflange kit on request, see table p. 335-336

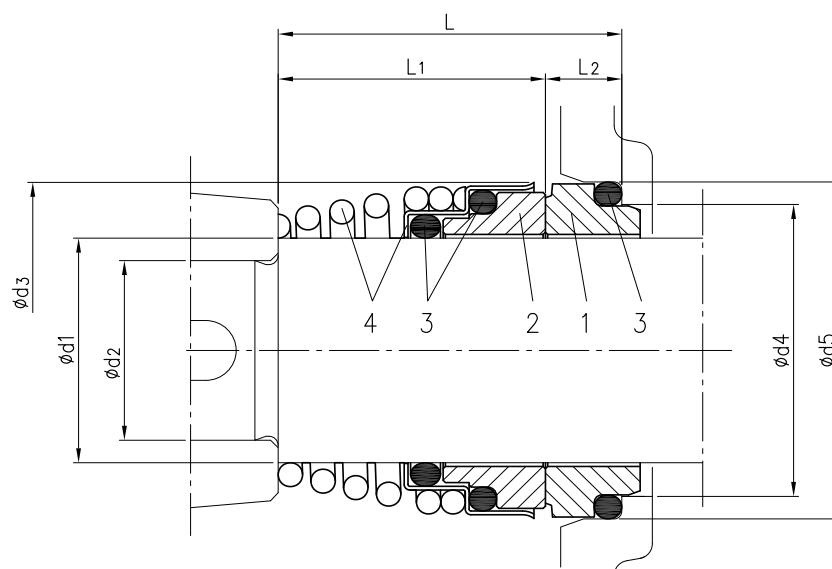
- [1] Quantity =0 for 65-160/15
Quantity =1 for 32-40-50 and 65 up to 11kW
Quantity =2 for 65-200/15, 65-200/18.5, 65-200/22
- [2] Quantity =1 up to 11kW
Quantity =2 from 15kW to 22kW
- [3] For version 32-200/3, 32-200/4, 32-200/5.5, 40-200/5.5, 40-200/7.5, 40-200/11, 50-160/5.5, 50-160/7.5, 50-200/9.2, 50-200/11, 50-200/15
- [4] Quantity =10 for 32-160, 40-160, 50-125, 65-125
Quantity =12 for 32-200, 40-200, 50-160, 50-200, 65-160, 65-200
- [5] For 15kW and above
- [6] Only for 65-160/15 and 65-200

- [7] FPM for H-HS-HW-HSW version
EPDM for E version, Q1AEGG, Q1Q1EGG, Q1U3EGG, U3CEGG, U3U3EGG
(U3U3EGG not available for 65-160/15 and 65-200)
- [8] Special version: see page 326 and following
- [9] Cast iron EN-GJL-200-EN 1561 for 32-200/3 and models with 15, 18.5, 22 kW motor
Aluminum AL-EN-1706-AC-46000-D for all the others.
- [10] CF8M – EN 1.4408 (AISI316) material for 65-125 up to 65-200
- [11] Only for 32-125/1.1

BEARINGS 3(.)M

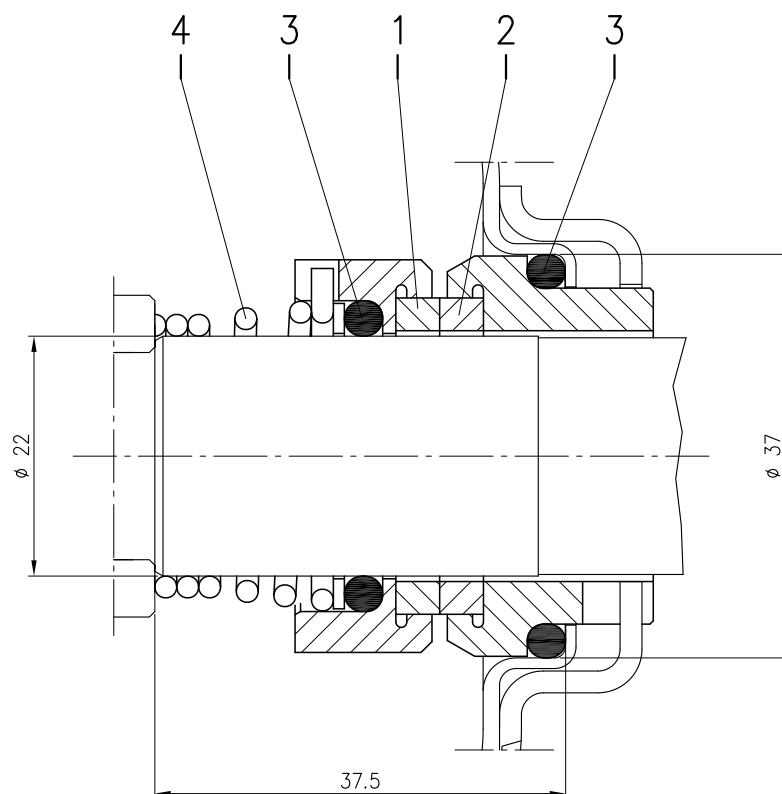
Pump type		Pump side	Fan side Single pha.	Fan side Three pha.
Single Phase 50 Hz	Three Phase 50 Hz			
3(.)M 32-125/1.1 M	3(.)M(Z) 32-125/1.1	6205	6205	6203
3(.)M 32-160/1.5 M	3(.)M(Z) 32-160/1.5			
3(.)M 32-160/2.2 M	3(.)M(Z) 32-160/2.2			
-	3(.)M(Z) 32-200/3	6206		6205
	3(.)M(Z) 32-200/4			
	3(.)M(Z) 32-200/5.5	6306		6206
	3(.)M(Z) 32-200/7.5			
3(.)M 40-125/1.5 M	3(.)M(Z) 40-125/1.5	6205	6205	6203
3(.)M 40-125/2.2 M	3(.)M(Z) 40-125/2.2			
-	3(.)M(Z) 40-160/3			
	3(.)M(Z) 40-160/4			
	3(.)M(Z) 40-200/5.5	6306	6206	
	3(.)M(Z) 40-200/7.5			
	3(.)M(Z) 40-200/11	6308	6208	
3(.)M 50-125/2.2 M	3(.)M(Z) 50-125/2.2	6205	6205	6203
-	3(.)M(Z) 50-125/3			
	3(.)M(Z) 50-125/4			
	3(.)M(Z) 50-160/5.5	6306	6206	
	3(.)M(Z) 50-160/7.5			
	3(.)M(Z) 50-200/9.2	6308	6208	
	3(.)M(Z) 50-200/11			
	3(.)M(Z) 50-200/15	6309	6205	
	3(.)M(Z) 65-125/4			
	3(.)M(Z) 65-125/5.5	6206	6206	
	3(.)M(Z) 65-125/7.5			
	3(.)M(Z) 65-160/7.5			
	3(.)M(Z) 65-160/9.2	6308	6208	
	3(.)M(Z) 65-160/11			
	3(.)M(Z) 65-160/15	6309	6309	
	3(.)M(Z) 65-200/15			
	3(.)M(Z) 65-200/18.5			
	3(.)M(Z) 65-200/22			
	3LM 80-160/11	6308	6309	6208
	3LM 80-160/15R			
	3LM 80-160/15			
	3LM 80-160/18.5			

MECHANICAL SEAL (standard, H, E and Special version)

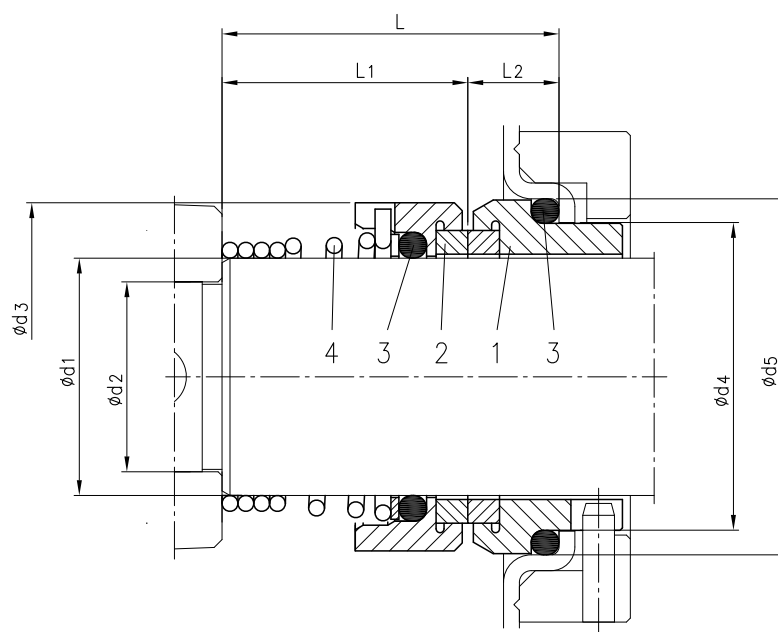


Version	Pump type	Dimensions								Material						
		d1	d2	d3	d4	d5	L	L1	L2	1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + Spring			
Standard	32-125/160/200 40-125/160/200 50-125/160/200 65-125 65-160/7.5-9.2-11	22	19	38	31	37	37.5	27.5	10	Carbon	Ceramic	NBR	EN 1.4401 (AISI 316)			
	65-160/15 65-200	30	24	46	39	45	42.5	32.5	10							
H	32-125/160/200 40-125/160/200 50-125/160/200 65-125 65-160/7.5-9.2-11	22	19	38	31	37	37.5	27.5	10	Carbon	Ceramic	FPM	EN 1.4401 (AISI 316)			
	65-160/15 65-200/250 80-160/200	30	24	46	39	45	42.5	32.5	10							
	80-250	35	29	50	44	50	42.5	32.5	10							
E	32-125/160/200 40-125/160/200 50-125/160/200 65-125 65-160/7.5-9.2-11	22	19	38	31	37	37.5	27.5	10	Carbon	Ceramic	EPDM	EN 1.4401 (AISI 316)			
	65-160/15 65-200/250 80-160/200	30	24	46	39	45	42.5	32.5	10							
Q1AEGG*	65-160/15 65-200/250 80-160/200	30	24	46	39	45	42.5	32.5	10	Silicon Carbide	Metallised Carbon	EPDM	EN 1.4401 (AISI 316)			

* The drawing is only indicative

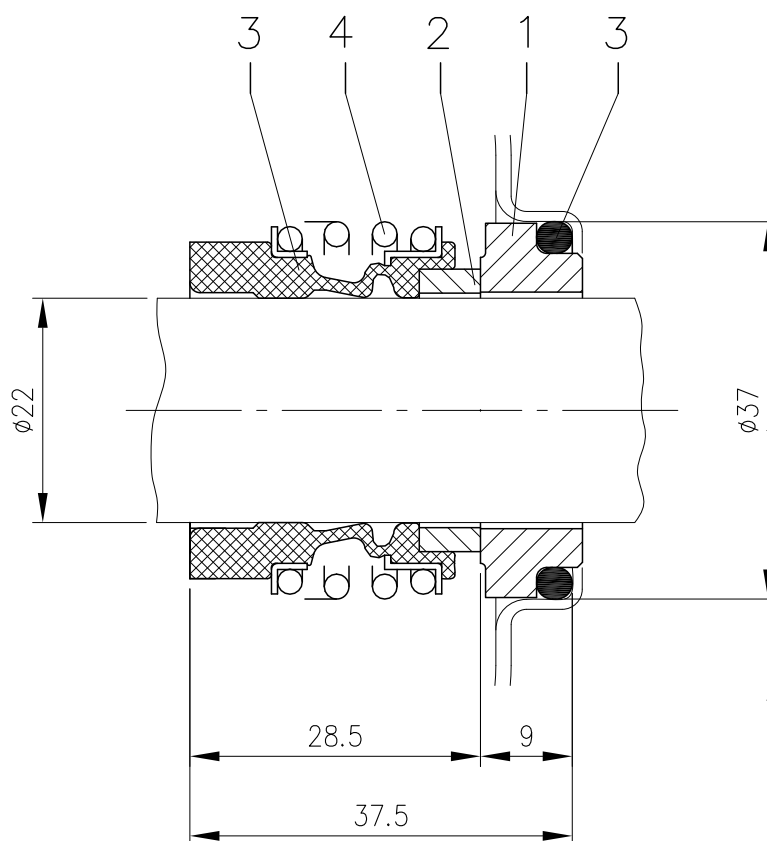
MECHANICAL SEAL (L version ø22)

Version	Pump type	Material			
		1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
L ø22	32-125/160/200 40-125/160/200 50-125/160/200 65-125 65-160/7.5-9.2-11	SiC	SiC	FPM	EN 1.4571 (AISI 316Ti)

MECHANICAL SEAL (L version ø30-35)

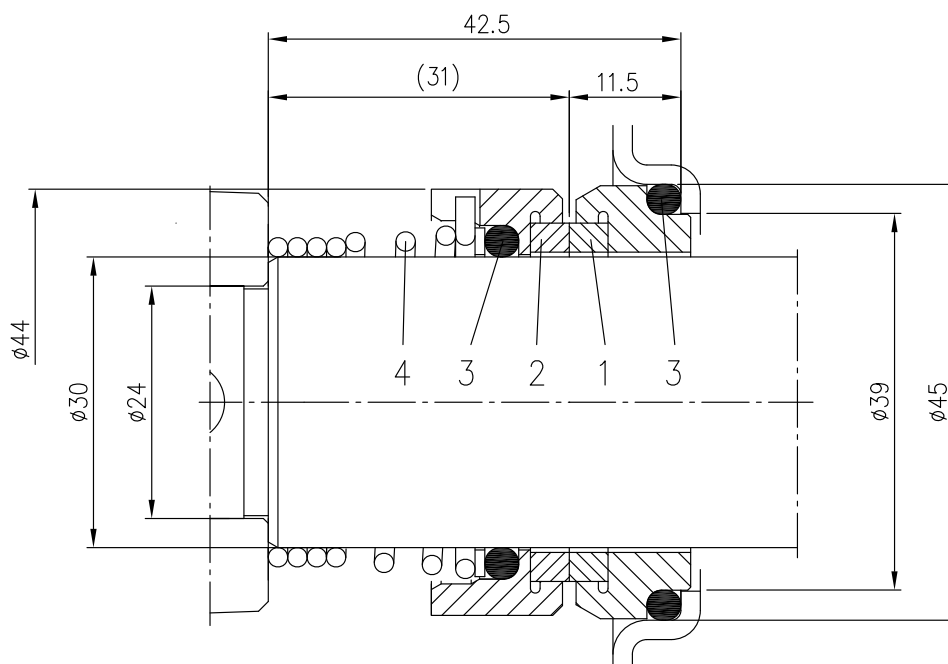
Version	Pump type	Dimensions								Material			
		d1	d2	d3	d4	d5	L	L1	L2	1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
L ø30	65-160/15 65-200/250 80-160/200	30	24	44	39	45	42.5	31	11.5	SiC	SiC	FPM	EN 1.4571 (AISI 316Ti)
L ø35	80-250	35	29	49	44	50	42.5	31	11.5				

MECHANICAL SEAL (HS version and Special version ø22)



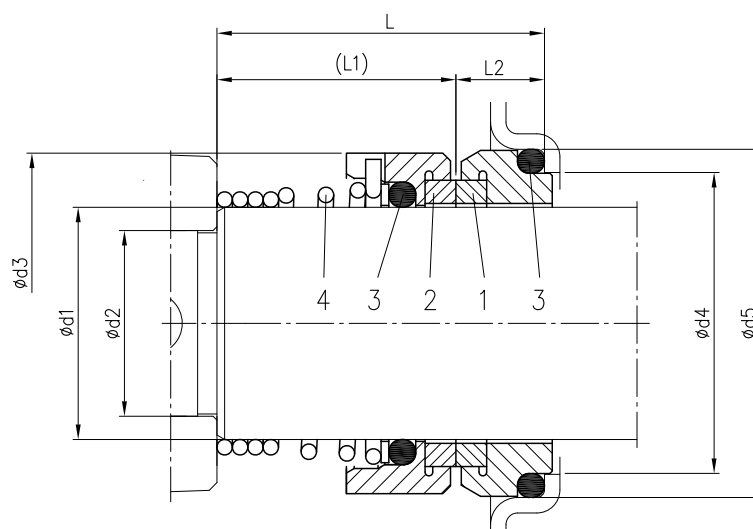
Version	Pump type	Material			
		1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
HS ø22	32-125/160/200 40-125/160/200 50-125/160/200 65-125 65-160/7.5-9.2-11	SiC	SiC	FPM	EN 1.4571 (AISI 316Ti)
Q1AEGG*	32-125/160/200 40-125/160/200 50-125/160/200 65-125 65-160/7.5-9.2-11	SiC	Metallised Carbon	EPDM	EN 1.4401 (AISI 316)

* The drawing is only indicative

MECHANICAL SEAL (HS version ø30)

Version	Pump type	Material			
		1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
HS ø 30	65-160/15 65-200	SiC	SiC	FPM	EN 1.4571 (AISI 316 Ti)

MECHANICAL SEAL (HW, HSW and Special version)



Version	Pump type	Dimensions								Material			
		d1	d2	d3	d4	d5	L	L1	L2	1 Stationary seal ring	2 Rotary seal ring	3 Rubber	4 Frame + spring
HW	32-125/160/200	22	19	38	31	37	37.5	27.5	10	Tungsten Carbide	Tungsten Carbide	FPM	EN 1.4401 (AISI 316)
	40-125/160/200												
	50-125/160/200												
	65-125												
	65-160/7.5-9.2-11												
65-160/15	30	24	46	39	45	42.5	32.5	10					
65-200/250													
80-160/200													
80-250	35	29	50	44	50	42.5	32.5	10					
HSW	32-125/160/200	22	19	38	31	37	37.5	27.5	10	Tungsten Carbide	SiC	FPM	EN 1.4401 (AISI 316)
	40-125/160/200												
	50-125/160/200												
	65-125												
	65-160/7.5-9.2-11												
65-160/15	30	24	46	39	45	42.5	32.5	10					
65-200/250													
80-160/200													
80-250	35	29	50	44	50	42.5	32.5	10					
U3U3EGG*	32-125/160/200	22	19	38	31	37	37,5	27,5	10	Tungsten Carbide	Tungsten Carbide	EPDM	EN 1.4401 (AISI 316)
	40-125/160/200												
	50-125/160/200												
	65-125												
	65-160/7.5-9.2-11												
Q1Q1EGG*	32-125/160/200	22	19	38	31	37	37,5	27,5	10	Silicon Carbide	Silicon Carbide	EPDM	EN 1.4401 (AISI 316)
	40-125/160/200												
	50-125/160/200												
	65-125												
	65-160/7.5-9.2-11												
65-160/15	30	24	46	39	45	42.5	32.5	10					
65-200/250													
80-160/200													
Q1U3EGG*	32-125/160/200	22	19	38	31	37	37,5	27,5	10	Silicon Carbide	Tungsten Carbide	EPDM	EN 1.4401 (AISI 316)
	40-125/160/200												
	50-125/160/200												
	65-125												
	65-160/7.5-9.2-11												
65-160/15	30	24	46	39	45	42.5	32.5	10					
65-200/250													
80-160/200													
U3CEGG*	32-125/160/200	22	19	38	31	37	37,5	27,5	10	Tungsten Carbide	Silicon Carbide	EPDM	EN 1.4401 (AISI 316)
	40-125/160/200												
	50-125/160/200												
	65-125												
	65-160/7.5-9.2-11												
65-160/15	30	24	46	39	45	42.5	32.5	10					
65-200/250													
80-160/200													

* The drawing is only indicative

FLUID TEMPERATURE RANGE

The fluid temperature range depends on:

- Material of the elastomers
- Type of fluid pumped
- Material of the sealing faces

for each combination of these parameters the fluid temperature range may be different.

		SEALING FACES MATERIAL			
		CERAMIC-CARBON		ALL (except ceramic-carbon)	
ELASTOMER	NBR	-10 °C	90°C	-10 °C	90°C
	EPDM	-10 °C	90°C	-10 °C	120°C
	FPM	-10 °C	75°C	-10 °C	75°C ¹
		MIN	MAX	MIN	MAX
FLUID TEMPERATURE RANGE					

¹In case of fluids not containing water, the temperature limit could be increased to 110°C

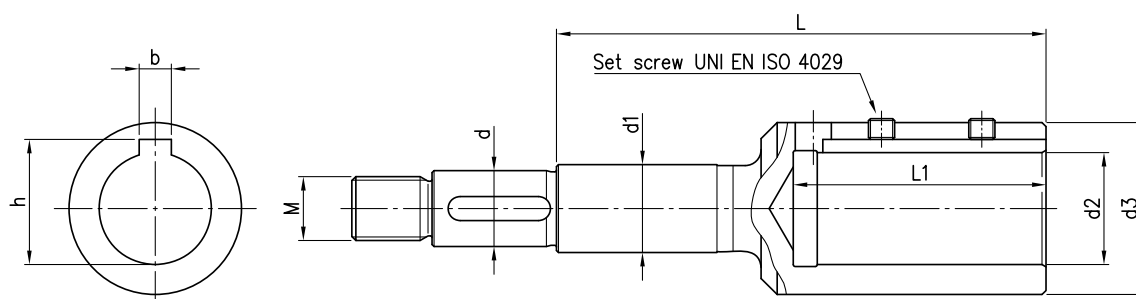
Therefore, the fluid temperature range is related to the choice of the mechanical seal and its materials.

STANDARD mechanical seal	TEMPERATURE	
	MIN	MAX
STANDARD	-10 °C	90 °C
STANDARD (L VERSION)	-10 °C	75 °C

OPTIONAL mechanical seal	TEMPERATURE	
	MIN	MAX
H	-10 °C	75 °C
HS	-10 °C	75 °C
HW	-10 °C	75 °C
HSW	-10 °C	75 °C
E	-20 °C	90 °C
ES	-20 °C	120 °C

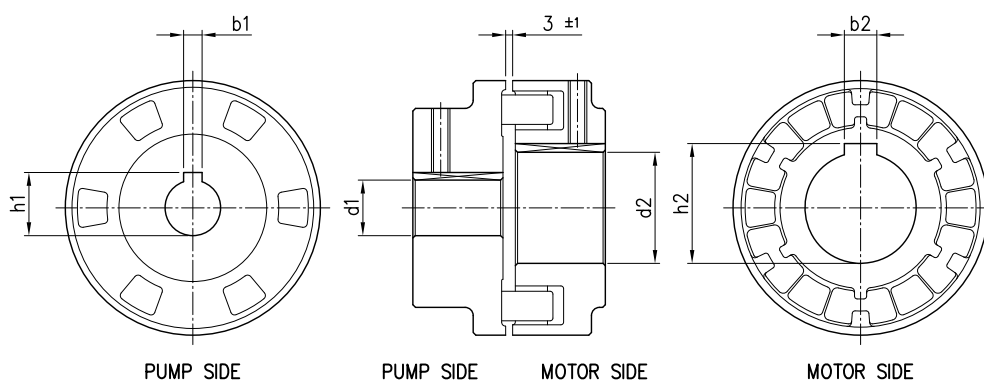
SPECIAL mechanical seal	TEMPERATURE	
	MIN	MAX
Q1AEGG	-10 °C	120 °C
U3U3EGG	-10 °C	120 °C
Q1Q1EGG	-10 °C	120 °C
Q1U3EGG	-10 °C	120 °C
U3CEGG	-10 °C	120 °C

COUPLING



Pump type	Power		Motor Size	Dimensions mm									
	[kW]	[HP]		d	d1	d2	d3	M	L	L1	b	h	Set screw
32-125/1.1	1.1	1.5	80	19	22	19	33	M16x1.5	98	43	6	21.8	M6x6
32-160/1.5	1.5	2	90	19	22	24	39	M16x1.5	110	53	8	27.3	M8x8
32-160/2.2	2.2	3	90	19	22	24	39	M16x1.5	110	53	8	27.3	M8x8
32-200/3.0	3	4	100	19	22	28	43	M16x1.5	122	63	8	31.3	M8x8
32-200/4.0	4	5.5	112	19	22	28	43	M16x1.5	122	63	8	31.3	M8x8
32-200/5.5	5.5	7.5	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
32-200/7.5	7.5	10	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
40-125/1.5	1.5	2	90	19	22	24	39	M16x1.5	110	53	8	27.3	M8x8
40-125/2.2	2.2	3	90	19	22	24	39	M16x1.5	110	53	8	27.3	M8x8
40-160/3.0	3	4	100	19	22	28	43	M16x1.5	122	63	8	31.3	M8x8
40-160/4.0	4	5.5	112	19	22	28	43	M16x1.5	122	63	8	31.3	M8x8
40-200/5.5	5.5	7.5	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
40-200/7.5	7.5	10	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
40-200/11	11	15	160	19	22	42	63	M16x1.5	178	114	12	45.3	M8x8
50-125/2.2	2.2	3	90	19	22	24	39	M16x1.5	110	53	8	27.3	M8x8
50-125/3.0	3	4	100	19	22	28	43	M16x1.5	122	63	8	31.3	M8x8
50-125/4.0	4	5.5	112	19	22	28	43	M16x1.5	122	63	8	31.3	M8x8
50-160/5.5	5.5	7.5	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
50-160/7.5	7.5	10	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
50-200/9.2	9.2	12.5	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
50-200/11	11	15	160	19	22	42	63	M16x1.5	178	114	12	45.3	M8x8
50-200/15	15	20	160	22	22	42	63	M18x1.5	209	114	12	45.3	M8x8
65-125/4.0	4	5.5	112	19	22	28	43	M16x1.5	122	63	8	31.3	M8x8
65-125/5.5	5.5	7.5	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
65-125/7.5	7.5	10	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
65-160/7.5	7.5	10	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
65-160/9.2	9.2	12.5	132	19	22	38	58	M16x1.5	145	84	10	41.3	M8x8
65-160/11	11	15	160	19	22	42	63	M16x1.5	178	114	12	45.3	M8x8
65-160/15	15	20	160	24	30	42	63	M20x1.5	184	114	12	45.3	M8x8
65-200/15	15	20	160	24	30	42	63	M20x1.5	184	114	12	45.3	M8x8
65-200/18.5	18.5	25	160	24	30	42	63	M20x1.5	184	114	12	45.3	M8x8
65-200/22	22	30	180	24	30	48	72	M20x1.5	184	114	14	51.8	M10x10
65-250/30	30	40	200	24	30	55	85	M20x1.5	184	114	16	59.3	M12x12
65-250/37	37	50	200	24	30	55	85	M20x1.5	184	114	16	59.3	M12x12
80-160/11	11	15	160	24	30	42	63	M20x1.5	184	114	12	45.3	M8x8
80-160/15R	15	20	160	24	30	42	63	M20x1.5	184	114	12	45.3	M8x8
80-160/15	15	20	160	24	30	42	63	M20x1.5	184	114	12	45.3	M8x8
80-160/18.5	18.5	25	160	24	30	42	63	M20x1.5	184	114	12	45.3	M8x8
80-200/22	22	30	180	24	30	48	72	M20x1.5	184	114	14	51.8	M10x10
80-200/30	30	40	200	24	30	55	85	M20x1.5	184	114	16	59.3	M12x12
80-200/37	37	50	200	24	30	55	85	M20x1.5	184	114	16	59.3	M12x12
80-250/37	37	50	200	29	35	55	85	M24x2	206	114	16	59.3	M12x12
80-250/45	45	60	225	29	35	55	85	M24x2	206	114	16	59.3	M12x12
80-250/55	55	75	250	29	35	60	89	M24x2	218	144	18	64.4	M12x12

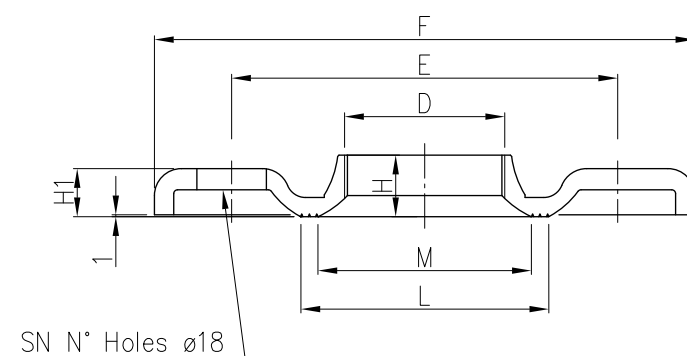
FLEXIBLE COUPLING



Pump type	Power		Motor Size	Dimensions mm					
	[KW]	[HP]		d1	b1	h1	d2	b2	h2
32-125/1.1	1.1	1.5	80	24	8	27.3	19	6	21.8
32-160/1.5	1.5	2	90	24	8	27.3	24	8	27.3
32-160/2.2	2.2	3	90	24	8	27.3	24	8	27.3
32-200/3.0	3	4	100	24	8	27.3	28	8	31.3
32-200/4.0	4	5.5	112	24	8	27.3	28	8	31.3
32-200/5.5	5.5	7.5	132	24	8	27.3	38	10	41.3
32-200/7.5	7.5	10	132	24	8	27.3	38	10	41.3
40-125/1.5	1.5	2	90	24	8	27.3	24	8	27.3
40-125/2.2	2.2	3	90	24	8	27.3	24	8	27.3
40-160/3.0	3	4	100	24	8	27.3	28	8	31.3
40-160/4.0	4	5.5	112	24	8	27.3	28	8	31.3
40-200/5.5	5.5	7.5	132	24	8	27.3	38	10	41.3
40-200/7.5	7.5	10	132	24	8	27.3	38	10	41.3
40-200/11	11	15	160	24	8	27.3	42	12	45.3
50-125/2.2	2.2	3	90	24	8	27.3	24	8	27.3
50-125/3.0	3	4	100	24	8	27.3	28	8	31.3
50-125/4.0	4	5.5	112	24	8	27.3	28	8	31.3
50-160/5.5	5.5	7.5	132	24	8	27.3	38	10	41.3
50-160/7.5	7.5	10	132	24	8	27.3	38	10	41.3
50-200/9.2	9.2	12.5	132	24	8	27.3	38	10	41.3
50-200/11	11	15	160	24	8	27.3	42	12	45.3
50-200/15	15	20	160	24	8	27.3	42	12	45.3
65-125/4.0	4	5.5	112	24	8	27.3	28	8	31.3
65-125/5.5	5.5	7.5	132	24	8	27.3	38	10	41.3
65-125/7.5	7.5	10	132	24	8	27.3	38	10	41.3
65-160/7.5	7.5	10	132	24	8	27.3	38	10	41.3
65-160/9.2	9.2	12.5	132	24	8	27.3	38	10	41.3
65-160/11	11	15	160	24	8	27.3	42	12	45.3
65-160/15	15	20	160	24	8	27.3	42	12	45.3
65-200/15	15	20	160	24	8	27.3	42	12	45.3
65-200/18.5	18.5	25	160	24	8	27.3	42	12	45.3
65-200/22	22	30	180	24	8	27.3	48	14	51.8
65-250/30	30	40	200	32	10	35.3	55	16	59.3
65-250/37	37	50	200	32	10	35.3	55	16	59.3
80-160/11	11	15	160	24	8	27.3	42	12	45.3
80-160/15R	15	20	160	24	8	27.3	42	12	45.3
80-160/15	15	20	160	24	8	27.3	42	12	45.3
80-160/18.5	18.5	25	160	24	8	27.3	42	12	45.3
80-200/22	22	30	180	32	10	35.3	48	14	51.8
80-200/30	30	40	200	32	10	35.3	55	16	59.3
80-200/37	37	50	200	32	10	35.3	55	16	59.3
80-250/37	37	50	200	32	10	35.3	55	16	59.3
80-250/45	45	60	225	32	10	35.3	55	16	59.3
80-250/55	55	75	250	32	10	35.3	60	18	64.4

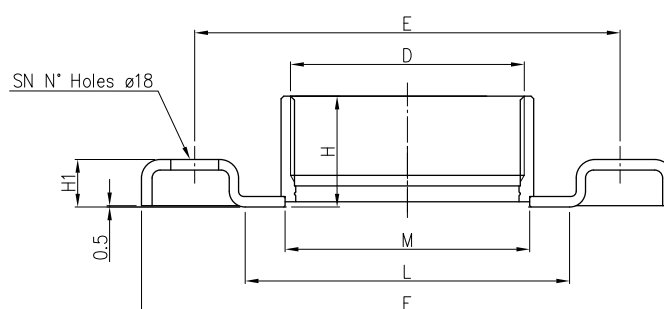
FITTINGS

COUNTERFLANGE ZINCKED STEEL



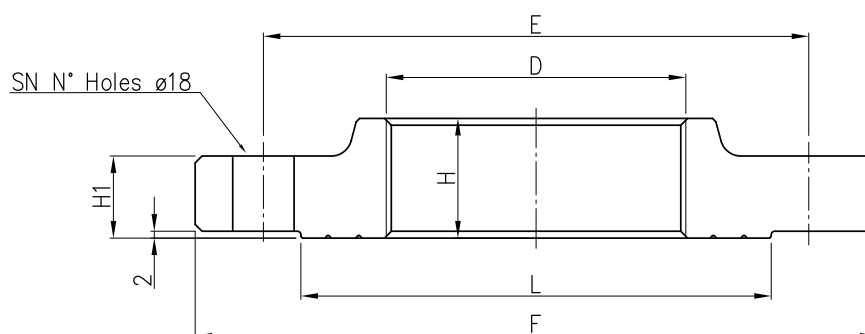
Counterflange									Screw	
DN	D	E	F	H	H1	L	M	SN	DIMENSIONS	MATERIAL
32	G 1 1/4	100	140	15	11.5	67	50	4	M16x55	Gv. Steel 8.8 strenght class ISO 898-1
40	G 1 1/2	110	150	17.5	11.5	72	58	4		
50	G2	125	165	19	15	89	70	4		
65	G 2 1/2	145	185	23	14	104	88	4		
80	G3	160	200	24	16	117.5	100	8	M16x60	
100	G4	180	220	29	16	144	125	8		

COUNTERFLANGE EN 1.4404 (AISI 316L)



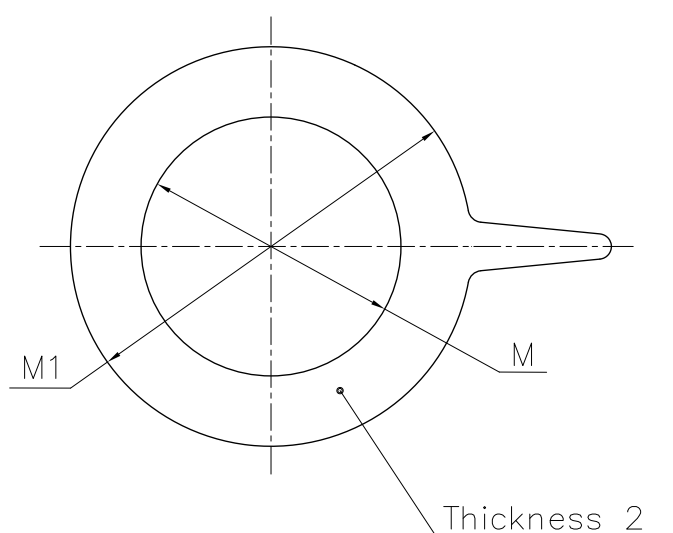
DN	D	E	Counterflange						Screw	
			F	H	H1	L	M	SN	DIMENSIONS	MATERIAL
32	G 1 1/4	100	140	29.5	14	66	44	4	M16x55	A2-70 class ISO 3506-1
40	G 1 1/2	110	150	29.5	14	71	50.5			
50	G 2	125	165	34	16	83	63			
65	G 2 1/2	145	185	40	16	103	80			
80	G3	160	200	42	18	122	92	8	M16x60	

COUNTERFLANGE EN 1.4404 (AISI 316L) DN100



DN	D	Counterflange						Screw	
		E	F	H	H1	L	SN	DIMENSIONS	MATERIAL
100	G4	180	220	35	20	150	8	M16x70	A2-70 class ISO 3506-1

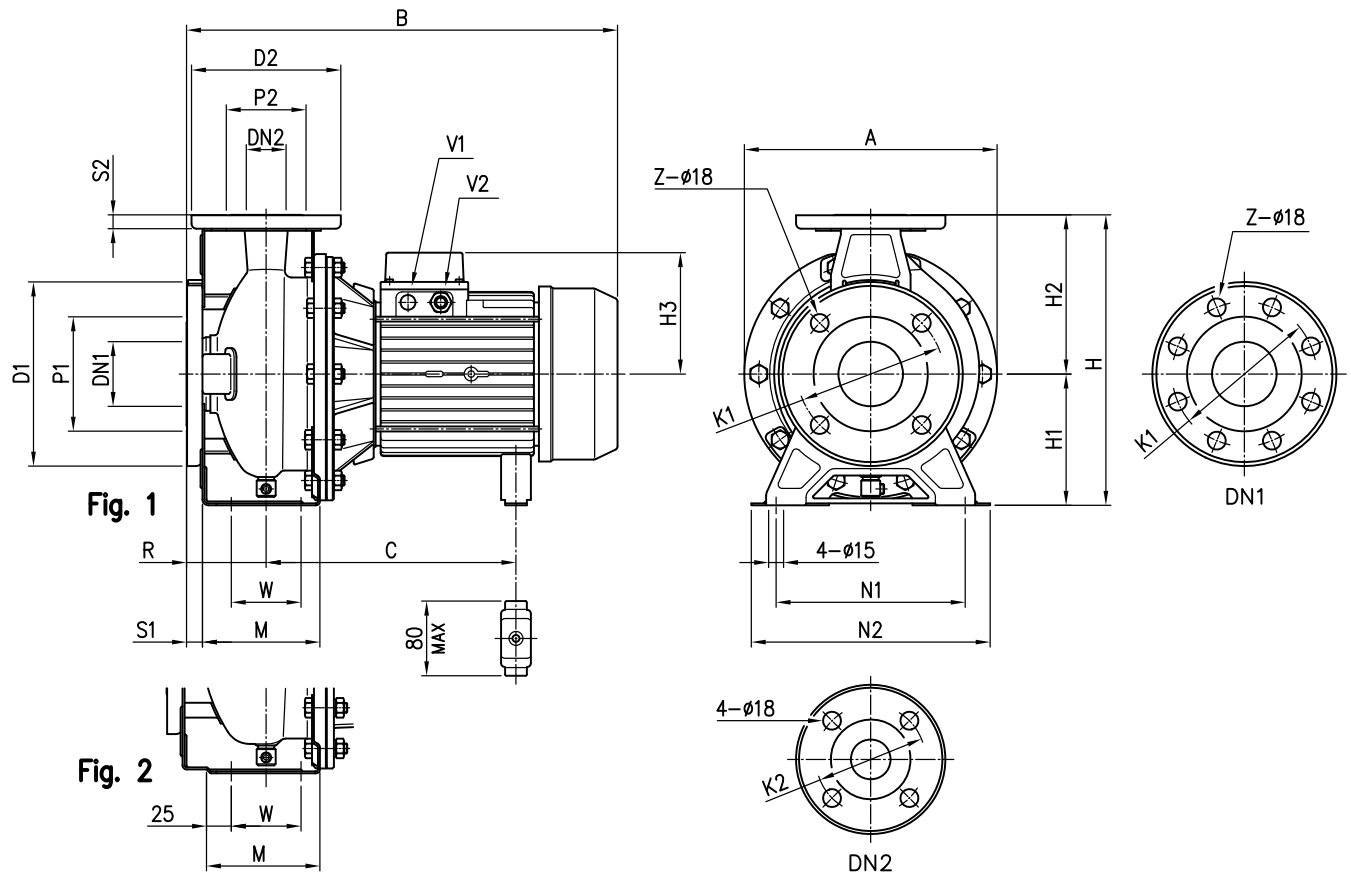
GASKET



DN	M	M1
32	38	82
40	50	93
50	60	107
65	80	125
80	90	140
100	115	160

Material : EPDM for standard version
FPM for L version

PUMP 3(.)M 32, 40, 50, 65-125/160



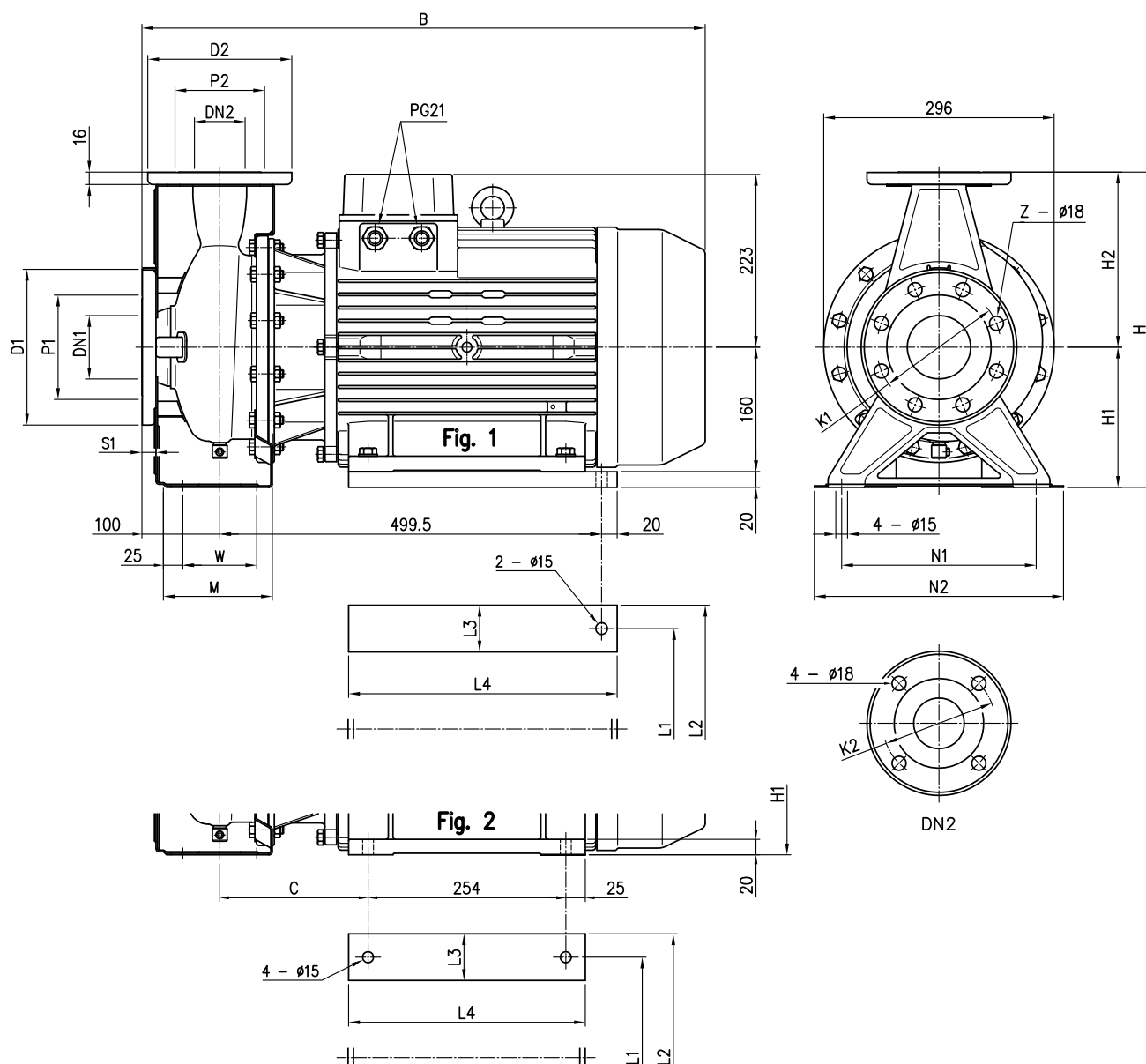
Model	Dimensions (mm)																											Weight [kgf]					
	Ø	Ø	Ø	Ø	Z	Ø	Ø	Ø	Ø	S2	Fig.	H	H1	H2	[1~]	H3	R	W	M	N1	N2	A	[1~]	[3~]	[1~]	[3~]	C	[3~]	V1	[3~]	V2	[1~]	[3~]
32-125/1.1 (M)	50	95	125	165	16	4	-	32	75	100	140	14	1	252	112	140	141	119	80	70	114	140	190	213	433	431	219+230	232	-	PG 13.5	M20x1.5	21.5	24.1
32-160/1.5 (M)	50	95	125	165	16	4	-	32	75	100	140	14	1	292	132	160	141	119	80	70	118	190	240	254	433	431	219+230	232	-	PG 13.5	M20x1.5	23.5	27
32-160/2.2 (M)	50	95	125	165	16	4	-	32	75	100	140	14	1	292	132	160	141	119	80	70	118	190	240	254	446	431	219+230	232	-	PG 13.5	M20x1.5	29	28
32-200/3.0	50	95	125	165	16	4	-	32	75	100	140	14	1	340	160	180	-	124	80	70	119	190	240	296	-	471	-	244+253	-	PG 13.5	-	-	35.1
32-200/4.0	50	95	125	165	16	4	-	32	75	100	140	14	1	340	160	180	-	141	80	70	119	190	240	296	-	494	-	253	-	PG 16	-	-	38.2
32-200/5.5	50	95	125	165	16	4	-	32	75	100	140	14	1	340	160	180	-	150	80	70	119	190	240	296	-	519	-	275	M20x1.5	PG 16	-	-	52.2
32-200/7.5	50	95	125	165	16	4	-	32	75	100	140	14	1	340	160	180	-	150	80	70	119	190	240	296	-	539	-	275	-	PG 16	-	-	60.1
40-125/1.5 (M)	65	115	145	185	16	4	-	40	80	110	150	14	1	252	112	140	141	119	80	70	114	160	210	213	433	431	219+230	232	-	PG 13.5	M20x1.5	22	24.6
40-125/2.2 (M)	65	115	145	185	16	4	-	40	80	110	150	14	1	252	112	140	141	119	80	70	114	160	210	213	446	431	219+230	232	-	PG 13.5	M20x1.5	25.5	26.1
40-160/3.0	65	115	145	185	16	4	-	40	80	110	150	14	1	292	132	160	-	124	80	70	118	190	240	254	-	471	-	244+253	-	PG 13.5	-	-	26.6
40-160/4.0	65	115	145	185	16	4	-	40	80	110	150	14	1	292	132	160	-	141	80	70	118	190	240	254	-	494	-	253	-	PG 16	-	-	40.8
40-200/5.5	65	115	145	185	16	4	-	40	80	110	150	14	2	340	160	180	-	150	100	70	115	212	265	296	-	539	-	275	M20x1.5	PG 16	-	-	52.5
40-200/7.5	65	115	145	185	16	4	-	40	80	110	150	14	2	340	160	180	-	150	100	70	115	212	265	296	-	559	-	275	-	PG 16	-	-	59.3
40-200/11	65	115	145	185	16	4	-	40	80	110	150	14	2	340	160	180	-	178	100	70	115	212	265	296	-	595	-	330	-	PG 21	-	-	69.6
50-125/2.2 (M)	65	115	145	185	16	4	-	50	95	125	165	16	2	292	132	160	141	119	100	70	114	190	240	254	446	451	219+230	232	-	PG 13.5	M20x1.5	30.5	32
50-125/3.0	65	115	145	185	16	4	-	50	95	125	165	16	2	292	132	160	-	124	100	70	114	190	240	254	-	491	-	244+255	-	PG 13.5	-	-	30.9
50-125/4.0	65	115	145	185	16	4	-	50	95	125	165	16	2	292	132	160	-	141	100	70	114	190	240	254	-	514	-	253	-	PG 16	-	-	40.9
50-160/5.5	65	115	145	185	16	4	-	50	95	125	165	16	2	340	160	180	-	150	100	70	115	212	265	296	-	539	-	275	M20x1.5	PG 16	-	-	46.5
50-160/7.5	65	115	145	185	16	4	-	50	95	125	165	16	2	340	160	180	-	150	100	70	115	212	265	296	-	559	-	275	-	PG 16	-	-	58.6
50-200/9.2	65	115	145	185	16	4	-	50	95	125	165	16	2	360	160	200	-	178	100	70	115	212	265	296	-	595	-	330	-	PG 21	-	-	63.9
50-200/11	65	115	145	185	16	4	-	50	95	125	165	16	2	360	160	200	-	178	100	70	115	212	265	296	-	595	-	330	-	PG 21	-	-	69.6
65-125/4	80	134	160	200	18	8	4	65	115	145	185	16	2	340	160	180	-	141	100	95	140	212	280	254	-	514	-	253	-	PG 16	-	-	37.7
65-125/5.5	80	134	160	200	18	8	4	65	115	145	185	16	2	340	160	180	-	150	100	95	140	212	280	254	-	539	-	275	M20x1.5	PG 16	-	-	48.7
65-125/7.5	80	134	160	200	18	8	4	65	115	145	185	16	2	340	160	180	-	150	100	95	140	212	280	254	-	559	-	275	-	PG 16	-	-	52.1
65-160/7.5	80	134	160	200	18	8	4	65	115	145	185	16	2	360	160	200	-	150	100	95	140	212	280	296	-	559	-	275	-	PG 16	-	-	55.3
65-160/9.2	80	134	160	200	18	8	4	65	115	145	185	16	2	360	160	200	-	178	100	95	140	212	280	296	-	595	-	340	-	PG 21	-	-	61
65-160/11	80	134	160	200	18	8	4	65	115	145	185	16	2	360	160	200	-	178	100	95	140	212	280	296	-	595	-	340	-	PG 21	-	-	67.4

[1] Standard

[2] On request

[1~] Only for single phase

[3~] Only for three phase

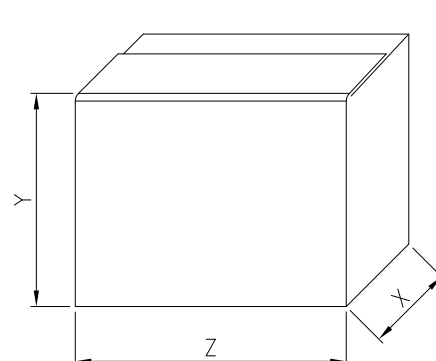
PUMP 3(.)M 50-200, 65-160/15, 65-200

Model	Dimensions [mm]																								Weight [kgf]	
	Ø DN1	Ø P1	Ø K1	Ø D1	S1	Z		Ø DN2	Ø P2	Ø K2	Ø D2	Fig.	H	H1	H2	W	M	N1	N2	B	C	L1	L2	L3		L4
50-200/15	65	115	145	185	16	4	-	50	95	125	165	2	360	160	200	70	115	212	265	723	190.5	254	318	65	304	105.1
65-160/15	80	134	160	200	18	8	4	65	115	145	185	2	360	160	200	95	140	212	280	732	199.5	254	318	65	304	107.1
65-200/15	80	134	160	200	18	8	4	65	115	145	185	1	405	180	225	95	140	250	320	732	-	254	314	60	345	110.1
65-200/18.5	80	134	160	200	18	8	4	65	115	145	185	1	405	180	225	95	140	250	320	732	-	254	314	60	345	125.3
65-200/22	80	134	160	200	18	8	4	65	115	145	185	1	405	180	225	95	140	250	320	732	-	254	314	60	345	136.1

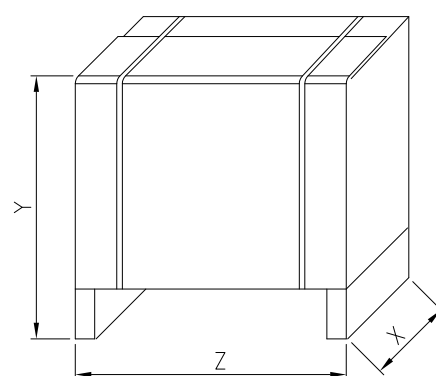
[1] Standard [2] On request

PACKING 3(.)M

Pump type	Packing [mm]						Weight [kgf]		Pack type	
	X		Y		Z		[1~]	[3~]		
	[1~]	[3~]	[1~]	[3~]	[1~]	[3~]	[1~]	[3~]		
32-125/1.1 (M)	280	280	350	360	490	470	25	29	1	
32-160/1.5 (M)						25,5	31,7			
32-160/2.2 (M)				360	350	535	490	30,5		33,5
32-200/3	-	330	-	400	-	560	-	41	2	
32-200/4										44
32-200/5.5								60,5		
32-200/7.5				410				680		65,6
40-125/1.5 (M)	280	280	350	360	480	470	24,5	30	1	
40-125/2.2 (M)				350	490	490	29,5	31,5		
40-160/3	-	330	-	400	-	560	-	28,8	2	
40-160/4										46,5
40-200/5.5								61,5		
40-200/7.5				410				680		68,1
40-200/11										79,4
50-125/2.2 (M)	280	280	360	350	535	490	32	38	1	
50-125/3	-	330	-	400	-	560	-	37	2	
50-125/4										47
50-160/5.5						51,5				
50-160/7.5						67,6				
50-200/9.2						73,5				
50-200/11						78,9				
50-200/15				370		440		860		113,1
65-125/4		330		400	560	41,7				
65-125/5.5						53,2				
65-125/7.5						56,6				
65-160/7.5				410	680	60,6				
65-160/9.2						66,5				
65-160/11						72,4				
65-160/15				370	440	860	112,1			
65-200/15		115,1								
65-200/18.5		127,3								
65-200/22		134,1								
80-160/11		455					680	105,4		
80-160/15R		440					860	136,1		
80-160/15			137,1							
80-160/18.5			151,3							



TYPE 1



TYPE 2

TECHNICAL DATA

50Hz

Rev. AH

MOTOR DATA 3(.)M

Pump type	Power		Efficiency	Capacitor		Efficiency (% load) and power factor				Input	Full load current		Locked rotor current	
	[kW]	[HP]		[μF]	[V]	50%	75%	100%	cos-φ		[A]		[A]	
Single Phase			[IE2 / IE3]							[kW]	110 V	230 V	110 V	230 V
3(.)M 32-125/1.1 M	1,1	1,5	IE2	50	450	66,5	75,5	80,9	0,96	1,47	-	6,7	-	46,4
3(.)M 32-160/1.5 M	1,5	2,0	IE2	50	450	72,4	79,2	81,4	0,96	1,94	-	8,7	-	54,0
3(.)M 32-160/2.2 M	2,2	3,0	IE2	55	450	76,5	81,5	83,8	0,95	2,72	-	12,3	-	73,0
3(.)M 40-125/1,5 M	1,5	2,0	IE2	50	450	72,4	79,2	81,4	0,96	1,94	-	8,7	-	54,0
3(.)M 40-125/2.2 M	2,2	3,0	IE2	55	450	76,5	81,5	83,8	0,95	2,72	-	12,3	-	73,0
3(.)M 50-125/2.2 M	2,2	3,0	IE2	55	450	76,5	81,5	83,8	0,95	2,72	-	12,3	-	73,0

Pump type		Power [HP]	Efficiency	Efficiency (% load)			cos phi	Input kW	Full load current			Locked rotor current		
									[A]			[A]		
kW				n%					Three Phase			Three Phase		
				50%	75%	100%	%		230 V	400 V	690 V	230 V	400 V	690 V
3(.)M(Z) 32-125/1.1	1,1	1,5	IE3	83,5	84,3	84,6	0,8	1,77	5,8	3,3	-	47,4	27,4	-
3(.)M(Z) 32-160/1.5	1,5	2,0	IE3	83,5	84,3	84,6	0,8	1,77	5,8	3,3	-	47,4	27,4	-
3(.)M(Z) 32-160/2.2	2,2	3,0	IE3	86,2	87,0	86,0	0,8	2,55	8,2	4,7	-	66,6	38,4	-
3(.)M(Z) 32-200/3.0	3,0	4,0	IE3	85,9	87,5	87,1	0,8	3,44	11,1	6,4	-	90,0	52,0	-
3(.)M(Z) 32-200/4.0	4,0	5,5	IE3	85,8	88,3	88,4	0,8	4,52	15,1	8,7	-	131,8	76,1	-
3(.)M(Z) 32-200/5.5	5,5	7,5	IE3	89,2	90,6	90,4	0,9	6,09	-	10,6	6,1	-	115,3	67,0
3(.)M(Z) 32-200/7.5	7,5	10,0	IE3	89,0	90,7	90,8	0,9	8,26	-	13,6	7,9	-	144,0	83,0
3(.)M(Z) 40-125/1.5	1,5	2,0	IE3	83,5	84,3	84,6	0,8	1,77	5,8	3,3	-	47,4	27,4	-
3(.)M(Z) 40-125/2.2	2,2	3,0	IE3	86,2	87,0	86,0	0,8	2,55	8,2	4,7	-	66,6	38,4	-
3(.)M(Z) 40-160/3.0	3,0	4,0	IE3	85,9	87,5	87,1	0,8	3,44	11,1	6,4	-	90,0	52,0	-
3(.)M(Z) 40-160/4.0	4,0	5,5	IE3	85,8	88,3	88,4	0,8	4,52	15,1	8,7	-	131,8	76,1	-
3(.)M(Z) 40-200/5.5	5,5	7,5	IE3	89,2	90,6	90,4	0,9	6,09	-	10,6	6,1	-	115,3	67,0
3(.)M(Z) 40-200/7.5	7,5	10,0	IE3	89,0	90,7	90,8	0,9	8,26	-	13,6	7,9	-	144,0	83,0
3(.)M(Z) 40-200/11	11,0	15,0	IE3	90,4	91,2	91,8	0,8	11,98	-	21,3	12,3	-	184,0	107,0
3(.)M(Z) 50-125/2.2	2,2	3,0	IE3	86,2	87,0	86,0	0,8	2,55	8,2	4,7	-	66,6	38,4	-
3(.)M(Z) 50-125/3.0	3,0	4,0	IE3	85,9	87,5	87,1	0,8	3,62	11,1	6,4	-	90,0	52,0	-
3(.)M(Z) 50-125/4.0	4,0	5,5	IE3	85,8	88,3	88,4	0,8	4,52	15,1	8,7	-	131,8	76,1	-
3(.)M(Z) 50-160/5.5	5,5	7,5	IE3	89,2	90,6	90,4	0,9	6,09	-	10,6	6,1	-	115,3	67,0
3(.)M(Z) 50-160/7.5	7,5	10,0	IE3	89,0	90,7	90,8	0,9	8,26	-	13,6	7,9	-	144,0	83,0
3(.)M(Z) 50-200/9.2	9,2	12,5	IE3	90,1	90,8	90,9	0,8	10,12	-	17,2	10,0	-	166,0	96,0
3(.)M(Z) 50-200/11	11,0	15,0	IE3	90,4	91,2	91,8	0,8	11,98	-	21,3	12,3	-	184,0	107,0
3(.)M(Z) 50-200/15	15,0	20,0	IE3	91,2	92,0	91,9	0,9	16,32	-	27,7	17,3	-	225,0	130,0
3(.)M(Z) 65-125/4	4,0	5,5	IE3	85,8	88,3	88,4	0,8	4,52	15,1	8,7	-	131,8	76,1	-
3(.)M(Z) 65-125/5.5	5,5	7,5	IE3	89,2	90,6	90,4	0,9	6,09	-	10,6	6,1	-	115,3	67,0
3(.)M(Z) 65-125/7.5	7,5	10,0	IE3	89,0	90,7	90,8	0,9	8,26	-	13,6	7,9	-	144,0	83,0
3(.)M(Z) 65-160/7.5	7,5	10,0	IE3	89,0	90,7	90,8	0,9	8,26	-	13,6	7,9	-	144,0	83,0
3(.)M(Z) 65-160/9.2	9,2	12,5	IE3	90,1	90,8	90,9	0,8	10,12	-	17,2	10,0	-	166,0	96,0
3(.)M(Z) 65-160/11	11,0	15,0	IE3	90,4	91,2	91,8	0,8	11,98	-	21,3	12,3	-	184,0	107,0
3(.)M(Z) 65-160/15	15,0	20,0	IE3	91,2	92,0	91,9	0,9	16,32	-	27,7	17,3	-	225,0	130,0
3(.)M(Z) 65-200/15	15,0	20,0	IE3	91,2	92,0	91,9	0,9	16,32	-	27,7	17,3	-	225,0	130,0
3(.)M(Z) 65-200/18.5	18,5	25,0	IE3	91,6	93,0	92,6	0,8	19,98	-	35,0	20,3	-	328,0	190,0
3(.)M(Z) 65-200/22	22,0	30,0	IE3	92,0	93,1	93,2	0,9	23,58	-	39,7	23,6	-	391,0	227,0
3LM 80-160/11	11,0	15,0	IE3	90,4	91,2	91,8	0,8	11,98	-	21,3	12,3	-	184,0	107,0
3LM 80-160/15R	15,0	20,0	IE3	91,2	92,0	91,9	0,9	16,32	-	27,7	17,3	-	225,0	130,0
3LM 80-160/15	15,0	20,0	IE3	91,2	92,0	91,9	0,9	16,32	-	27,7	17,3	-	225,0	130,0
3LM 80-160/18.5	18,5	25,0	IE3	91,6	93,0	92,6	0,8	19,98	-	35,0	20,3	-	328,0	190,0

NOISE DATA 3(.)M

Pump type		L _{pA} - dB(A) *
Single Phase	Three Phase	
3(.)M 32-125/1.1 M	3(.)M(Z) 32-125/1.1	<70
3(.)M 32-160/1.5 M	3(.)M(Z) 32-160/1.5	
3(.)M 32-160/2.2 M	3(.)M(Z) 32-160/2.2	
-	3(.)M(Z) 32-200/3.0	71
-	3(.)M(Z) 32-200/4.0	
-	3(.)M(Z) 32-200/5.5	75
-	3(.)M(Z) 32-200/7.5	
3(.)M 40-125/1.5 M	3(.)M(Z) 40-125/1.5	<70
3(.)M 40-125/2.2 M	3(.)M(Z) 40-125/2.2	
-	3(.)M(Z) 40-160/3.0	
-	3(.)M(Z) 40-160/4.0	71
-	3(.)M(Z) 40-200/5.5	
-	3(.)M(Z) 40-200/7.5	75
-	3(.)M(Z) 40-200/11	
-	3(.)M(Z) 40-200/11	80
3(.)M 50-125/2.2 M	3(.)M(Z) 50-125/2.2	<70
-	3(.)M(Z) 50-125/3.0	71
-	3(.)M(Z) 50-125/4.0	
-	3(.)M(Z) 50-160/5.5	
-	3(.)M(Z) 50-160/7.5	75
-	3(.)M(Z) 50-200/9.2	
-	3(.)M(Z) 50-200/11	80
-	3(.)M(Z) 50-200/15	
-	3(.)M(Z) 65-125/4	71
-	3(.)M(Z) 65-125/5.5	75
-	3(.)M(Z) 65-125/7.5	
-	3(.)M(Z) 65-160/7.5	
-	3(.)M(Z) 65-160/9.2	80
-	3(.)M(Z) 65-160/11	
-	3(.)M(Z) 65-160/15	
-	3(.)M(Z) 65-200/15	83-82
-	3(.)M(Z) 65-200/18.5	
-	3(.)M(Z) 65-200/22	
-	3LM 80-160/11	80
-	3LM 80-160/15R	
-	3LM 80-160/15	
-	3LM 80-160/18.5	83-82

* Mean value of several measures at 1m distance around the pump.

Tolerance ± 2.5 dB.